

Jonathan Watson

Colbatch's VVorks.

A D V E R T I S E M E N T S.

A Physico-medical Essay concerning the late frequency of Apoplexies; with a general Method of their Prevention and Cure.

Nova Hypotheses ad explicanda Febrium Intermittentium Symptomata, & Typus Excogitata Hypotyposis, una cum Aetologia Remedium, &c.

Both by *Will. Cole*, M. D.

A Treatise of Chirurgical Operations after the newest and most exact Method: with curious Observations, and a general Idea of Wounds. By *J. de la Charrier*.

A compleat Doctrine of the Bones according to the newest and most refin'd Notions of Anatomy; with several curious Observations, and an excellent method of whitening, cleansing, preparing and uniting the Bones to form a movable Skeleton. By *R. Baker*, Surgeon.

Curiosities in Chymistry: Being new Experiments and Observations concerning the Principles of Natural Bodies: Written by a Person of Honour, and published by his Operator *H. G.*

The Secrets of *Laz. Riverius*, Counsellor and Physician to the French King: Translated by *E. P. M. D.*

All printed for *Dan. Brown* without Temple-Bar.

Collection of Tracts, Chirurgical and Medical,

V I Z.

- I. A New Light of Chirurgery; or a discovery of a more safe, and speedy way of curing Wounds than formerly usually practised, with several Experiments.
- II. The New Light of Chirurgery vindicated from the unjust Aspersions of several unknown Calumniators, &c.
- III. A Physico-medical Essay concerning *Alkaly* and *Acid* as they relate to the Cause and Cure of Distempers; with an Account of some Distempers, and the Medicines for the Cure of them: Also a short Digression about Specific Remedies.
- IV. Further Considerations concerning *Alkaly* and *Acid*, wherein the Terms and Nature of them are more fully explained, &c.
- V. A Treatise of the *Gout*, wherein both its Cause and Cure are demonstrated; with some Medicinal Observations concerning the Cure of *Fevers*, &c. by the means of *Acids*; with an Account of Experiments, and the Medicines, with their Preparations.
- VI. The Doctrine of *Acids* in the Cure of Diseases further asserted, in Answer to Dr. *Tutbill*; wherein are some things relating to the History of Blood, &c.
- VII. A Relation of a sudden and extraordinary Cure of a Person bitten by a Viper, by the means of *Acids*, &c.

Corrected and Enlarged by J. COLBATCH,
A Member of the College of Physicians.

L O N D O N;

Printed for *Dan. Brown* at the Black Swan and
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Novum Lumen Chirurgicum ;
OR, A
NEW LIGHT
OF
CHIRURGERY.

Wherein is Discover'd a much more
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*Illustrated with several Experiments made in
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(3)

TO THE
KING'S
Most Excellent MAJESTY.

May it please your Majesty ;

THE great Experience I found of your Majesty's Bounty and Favors in the late Campaign in *Flanders*, and more especially that inexpressible one, intimated by Sir *Henry Bellasis*, I mean your Majesty's good Wishes, and Care of the meanest of your Subjects, when both his Life and Reputation were design'd to be snatch'd away by wicked and unreasonable Men, whom he never injur'd: These Considerations, *Royal SIR*, as they bind me perpetually to dedicate my Life to Your Service ; so they also give me Incouragement to presume, the same

Fountain of Favor and Goodness will allow Your *Princely Patronage* to the ensuing Sheets, which I had leisure to write under Your *Majesty's Banner* the last Summer, when there was little Action in the Field.

I am sensible every new *Hypothesis* is at first exploded; and my Medicins being intirely new, as well as the Method of their Use and Application, I must meet with a Legion of Opponents; which makes me the more to stand in need of Your Royal Support; but yet I beg it no further in this case, than that they may have fair Play, and a clear Stage: Let them stand or fall as they deserve; since I am assured they will stand the most strict Examination, and severest Test.

I know that all Arts and Sciences in every Age find a beneficial Improvement by Ingenious Inquirers: and that the Art of *Chirurgery* (as it has bin hitherto practised) did never arrive to the *Zenith* of its Perfection, I have made bold, in the subsequent Discourse, to affirm.

In

In which Position I am the more confirm'd, when I reflect upon the Modern Discovery of the *Circulation* of the *Blood*, by the Learned Dr. *Harvey*; before whose time a Man would have bin accounted a distracted Person, that should have aver'd that all the Blood in a man's Body should pass thro his Heart fifty times in an hour. And much greater Discoveries and Improvements, since St. *Paul* went coasting to *Rome*, are found out in the Art of *Navigation*, by the assistance of the *Compass*: for now every Cabin-boy can demonstrate the verity of *Antipodes*; tho formerly a Learned Prelar, who first preached that Doctrin, was accounted an Impostor, and severely censur'd for the same.

I pretend not, SIR, to establish my new Doctrin by working of Miracles; but I hope I may with modesty enough be positive in my Assertion, That the Method of *Chirurgery* hitherto used is not the best: That all *Probes* and *Tents*, all *Digestive* and *Suppurating Medicins*, all *Cauterising* and strait *Ligatures* are injurious

to their Patients, and procrastinate their Cure. I am also certain that my Medicins will cure any Wounds, whether in the Flesh, or within the Cavity of the Body, where as dangerous Wounds were ever cur'd by any former Applications, and that with much greater Speed and safety to the Patient, since they prevent Fevers and Mortifications.

If my Medicins prove any way beneficial to Mankind in general, I shall be abundantly satisfied and rewarded; having no higher Ambition than that I desire to be accounted, what I shall ever endeavor to approve my self,

ROYAL SIR,

The Most Obedient of Your

Majesty's Subjects and Servants,

JOHN COLBATCH.

TO THE
 READER.

FRIENDLY Reader, I have for about seven Years applied my self with all Heartiness and Vigor, to the making of such Experiments, whereby I might be capable, in some measure, to relieve the Necessities of those who labor'd under such Distempers, as, by the Methods and Medicins generally used, are, if at all, yet very difficultly to be cured: And I thank God, my Labors have not bin altogether ineffectual.

Amongst the Multitude of my Experiments, I thought it might not be lost labor to attempt something in order to be serviceable to those Worthy Persons, who out of a Principle of Bravery, and Love to their Country, do run themselves into the utmost hazard of their Lives; who, if they chance to be wounded, tho but slightly, are thereby often afflicted worse than by Death it self; nay frequently, after they have indur'd the greatest Torture and Misery, Death at last puts a Period to all.

Having at length lighted upon a pair of Medicins, the one Internal, and the other External, which I supposed would answer my Intentions; I began to make Experiments upon Dogs and other Animals, wounding them in the most desperate manner I could contrive: and in about a Hundred that I made, I had not above five that miscarried, three of which were before the Right Honorable the Lord Cutts; but two of those three, as I can plainly make appear, after the danger was over, were poison'd. I was likewise much abus'd in a Soldier of his Lordship's Regiment, who after my Medicins had set him free from all ill Syntoms, and he almost well, in my absence for four or five hours (having before for five Days and Nights bin constantly with him, for fear of Roguery) was made drunk, but by whom I know not, and in an hour or two after my return died.

My failing in these last Experiments, I suppose, was the reason I was not then employ'd by his Majesty. However, being sufficiently satisfied of the worth of my Medicins, by my success in the Multitude of Experiments I had before made upon Dogs, and two or three upon human Bodies; I laid out a large Sum of Money in preparing a good quantity of them; and with them, at my own charge, I went to Flanders. When I came there, His Majesty was most graciously pleas'd, by a public Order throout the Army,

Army, to give me an opportunity of making appear the Truth of my Pretensions; and, thanks to God, among the great number of Patients I had, there was but one miscarried; and how he died I cannot tell, being my self at that time ill almost unto Death, and so not capable of looking after him.

The Malice of some People against me is sufficiently known; but of this I am sure, that not one Patient I had in Flanders, but will contradict that printed Relation (in the Philosophical Transactions for February last) with Mr. Cooper's name to it; wherein he pretends to tell the World, That my External Medicin is the greatest Caustic imaginable. Now the Nature of all Caustics is to create great Pain, but of my Medicins the quite contrary; for instead of that they are the greatest Anodyns, or easers of Pain that I ever met with. One very signal Instance wherof you will see in my Experiment made before Sir William Ruffel, &c.

My Medicins where they are timely enough, and regularly used, cure all sorts of Wounds, without bringing them to Suppuration; but where that is once begun, they will soon cause a discharge of the digested Matter, and bring the Wound to a state of healing: Nay, where Wounds have bin brought to Suppuration, and in a very ill condition, which, by the common Methods,

thods, would have taken many weeks before they were, if at all, to be cur'd; by my Medicins, as in the case of the Soldier of Sir James Lesley's Regiment, and that of Colonel Coy's, hereafter related, &c. it has bin perform'd in a small time.

In some Gun-shot Wounds, where the Bones are extremely shatter'd, by the common Methods, the bringing away of broken Splinters is extremely hazardous and troublesom, but by my Methods not so; tho such Wounds require a much longer time before they are well than others: but who in such Cases will not have a little patience, when he is free from Pain, and under no confinement? All the Patients I have had under these circumstances, have bin fatigu'd with long Marches, expos'd to Wind and ill Weather, and indured all other sorts of Hardships, which may have occasioned their being longer in Cure than otherwise they might have bin.

*The number of Experiments I have related, tho I might have added many more in the ensuing Treat, is not great; but those that are, I suppose may be sufficient to demonstrate the Truth of my Pretensions; which are, That all curable Wounds may be cured with much more ease and speed than by the common Methods; and that a great number of those Wounds usually accounted mortal, are not so: And likewise, that the stopping of great Fluxes of Blood, the nonperformance of
which*

To the Reader.

11

which costs many People their Lives, is to be performed with the greatest ease imaginable.

I have bin sufficiently deter'd from prosecuting my just Designs for the good of Mankind; having first of all, besides many other great Affronts, bin publicly threatned to be murdered; afterwards my self with two of my Friends were secretly poison'd, one of whom in a short time died in a most miserable condition, and we two who survive narrowly escap'd with our Lives. However, the utmost malice of these pernicious People shall never hinder me from going on in my honest Undertakings.

Tho I have met with this ill treatment from some mean, ill principled People; yet I must own that the English Army affords a great many Chirurgeons, who are Men of extraordinary Worth and Candor, from some of whom I have received very civil treatment.

I have purposely omitted the using of any, or at least very few terms of Art, but have made every thing as plain as I can; my design not being to gratify and please Critics, but to satisfy Gentlemen of the Truth of matter of Fact.

As for my not mentioning what my Medicins are, with the manner of preparing them, I hope for the present that will be excused, because every one knows where to be furnished with them ready to their hands.

But

But some may say it looks too like a Quack to give large Encomiums of those Medicins which I have not made public to the World. To which I answer, that some mens Censures I value not, having so many great Precedents before me, who gave large and deserv'd Encomiums of those Medicins they made not public during their Lives, some of them not at all; and yet their Medicins were of general use and reputation, as Helmont's Mercurius Diaphoreticus, Willis's Preparation of Steel, and Tincture of Sulphur, Needham's Panacea, &c.

I have not at this time, neither have I had for these two years last past, the least interest or concern in the Medicins here recommended; yet at the same time I am not asham'd to let this Piece come abroad a third time. The Experiments are every one of them true to a tittle as they are related; and for the Hypothesis, I shall not desert it, till some body substitutes a better in its room.

From my House in Villers-
street, York Buildings.

Novum Lumen
CHIRURGICUM.

HAVING for a long time bin much dissatisfi'd with the common Methods of Chirurgeons in the Cure of Recent Wounds; and almost every day observing the Inconveniences that attended those People who had occasion to make use of them; for my own satisfaction, and the good of Mankind, I took into consideration, whether their Methods were agreeable to Reason, and the Subject upon which they wrought. At last I was fully satisfy'd, that their Practice was most unreasonable; which I shall endeavor to evince with as much brevity and accuracy, as the Unsetledness of my present Condition will admit: which when I have done, I shall lay down my own *Hypothesis*, and doubt not to confirm it both by Reason and matter of fact, which is the most clear sort of demonstration. For the right performance of which task, I must first give a short account of *Nutrition*, without which my present Undertaking will be altogether maimed and imperfect.

To give an account of the Nutrition of Human Bodies, or of other Animals, in so clear a manner

manner as ought to be don, I should first begin with the Formation of the *Fætus*, and its original constituent parts, with the manner of its Nutrition and Increase before all the parts are perfect, and how after, till the time of Birth; the performance of which task only is sufficient for a Volume: Therefore I shall content my self with observing only, how what we eat and drink is prepar'd in the Stomach and other Digestions, and so fitted to supply the defects of all the parts of our Bodies; which, tho the most hard, continually suffer both a decrease and increase; nay, even in the terms of Chirurgeons upon another occasion, loss of Substance, and supply of that loss.

The solid Food we eat being well chew'd in the Mouth, is there mixed with a Juice contained in the *Glands*, which are in great numbers dispersed all over the Mouth and parts adjacent; which Juice, being what we call *Spittle*, is highly impregnated with a penetrating *saline Spirit*: a demonstration of the Truth of which is evident in a known and very common Experiment, which is as follows. Let a small quantity of *Mercury* be put into a Mortar, spit upon it, and grind it very well with a Pestle, and the Mercury will presently be (according to the vulgar expression) kill'd. The like to which nothing we know of will do, but those things which manifestly are of a saline nature, and that of the Tribe of *Acids* too; for all Alkalious Salts have a quite different effect. The

The Meat, as above, being well chew'd, and afterwards convey'd into the Stomach, and there diluted with a proper Vehicle, as Wine, Ale, &c. (the more generous the better) is, by the means of the foresaid *spirituous*, saline Liquor, (the heat of the Stomach likewise assisting) divided into such minute Particles, as constitute that viscid Liquor we call *Chyle*; which Chyle is discharged out of the Stomach so fast as it is made, by means of the Liver, which constantly presses upon it thro the *Pylo-rus* into the *Intestinum duodenum*, where, and in the *Jejunum*, it is further attenuated by the intervention of the *Pancreatic Juice* and the Gall, which by the fulness of the Stomach are squeez'd out of those Vessels that contain them into the aforesaid Guts; from whence the finer parts of this attenuated Liquor are receiv'd into a certain kind of Vessels we call *Lacteal* or milky Veins, which are in vast numbers inserted into the aforesaid Guts: the grosser part, by the *Peristaltic* motion of the Guts, is carried downwards to be cast away as Excrement.

Now what is received into the *Lacteal* Vessels, is carried on to the common receptacle of the Chyle in the *Mesentery*; from whence by a very large Vessel, called the *Thorachic Duct*, into the *Subclavian Vein*; thence, together with the returning Blood and *Lympha*, into the *Vena Cava*, and so to the right Ventricle of the Heart; whence, by the *Systole* or Contraction

traction of the Heart, thro the Arterial Vein, into the Lungs; where, by the Contraction and Dilatation of the Lungs, it is mix'd with the Blood, and that part of it which is fit for that purpose, is there made Blood: The rest only remains confusedly mixed with it, and is used for the Nutrition of the parts, being what we call *Serum*. The Blood, as I apprehend, is not at all made use of for the Nutrition of the parts, but is that red Substance, wherein is contain'd the *Bioluminum*, or Lamp of Life, to which it is a sort of *Pabulum*.

I confess some say that *Heat* and *Fire* proceed from nothing else but the parts of Matter being put into violent motion; and others, that there can be no such thing as a Flame in our Blood, because a sufficient quantity of Air cannot pass thro the Coats of our Veins and Arteries, or any other way enter into the Blood to keep that Flame burning: so that the Heat we feel in our Bodies, proceeds from nothing else but the violent motion of the Blood thro the Veins and Arteries.

To which I answer, that having several times tried, by the most violent Agitation of many fluid Bodies in inclosed Vessels, I could never perceive the least warmth; nay I have kept Blood as it came warm out of the Veins in continued violent motion, and instead of hindering, it has facilitated its cooling.

But for that Fire, which I judg to be in the Blood, I suppose it quite different from common

mon *culinary* Fire, and burns by quite different means, and has a different *Pabulum*. For it is well known, that Blood by Distillation yields but a very little of any such substance as will afford supply to common Fire; and yet from Blood, and that Excrement of it we call Urin, by a peculiar management, may be obtain'd that substance we call the *Phosphorus*, which is as much Fire as any thing we know, it being so inflammable, that unless it be immerg'd in Water, it presently consumes all away in Flame. There is an old Maxim, that *Nil dat quod in se non habet*; which is very pertinent to the point in hand: and from whence I infer, that if there were not Fire in the Blood actually before, I cannot understand how this most fiery Substance can be obtained from it.

But there still lies a mighty Objection in my way, which I shall endeavor to clear before I go on. It is this: Suppose the heat of the Body proceeds from this fiery substance in the Blood; how comes it to pass, that in many cases, as in Wounds, when matter is generating, &c. the motion of the Blood and heat of the Body is greater than at other times, when that matter, which enters into the Blood, and causes this hurry and disorder, has no tendency to increase the Flame?

To which I answer, that tho such Particles entering into the Blood, may increase the heat and motion of it; yet it is not out of any na-

tural tendency they have *per se* so to do; but accidentally they may do it, by causing an intestine motion or fermentation, whereby the *Cement* of the Blood being loosned, and its Texture much spoiled, this Flame is at liberty to burn more furiously. An instance of which may be seen in common Fire: for if the combustible matter of which it is to be made, be laid close together, it will scarce burn at all; but being laid at a little distance, it presently burns briskly. And if it were not something more than mere motion a little excited, which is the cause of Fevers, I cannot understand how a very fat Person in a violent Fever should in a few days be reduced to almost nothing but Skin and Bones, when the visible Evacuations of *Urin* and *Stool* are generally less than at other times; which frequently happens. Now it is well known, that no Liquors will ferment, but those which manifestly abound with fiery Particles, as all sorts of vinous Liquors; and the stronger all such Liquors are, the more readily they ferment.

The confused mixture of *Blood* and *Serum* (I stick not to call it a confused one, because with good Glasses the Blood may be seen floating in the *Serum* in the form of small *Globules*) is carried back from the Lungs by the *venal Artery* into the left Ventricle of the Heart, and from thence protruded by means of the *great Artery*, which is immediatly divided into a great many branches, to all parts of the

*

Body,

Body, even the most minute; the Bones themselves not being destitute of Arteries to bring this mixture to them for their Nutrition, and Veins to carry back what is superfluous.

The manner of Nutrition I conjecture to be as follows. The Arteries, which, as before observ'd, at their Origin are very large, are at last divided into an almost innumerable company of small Branches, even so small, that the best Glasses will scarce discover them to us. At the extremities of these small Arteries is that compound Liquor we call *Blood*, discharged upon or into the *Muscular Fibers*; and not only the soft parts, but even the Bones themselves are observed to be fibrous; which Fibers, tho never so small, are yet hollow. Now there are vast quantities of the small Particles, which compose not only the fluid, but also the most solid Parts, continually discharged by insensible Transpiration. And *Sanctorius*, that famous *Roman* Physician, in his nice Experiments observes, that we waste more every day by insensible Transpiration thro the *Pores*, than by the visible, sensible Evacuations of *Urin* and *Stool*. The waste made by insensible Transpiration, is repair'd by the *homogeneous* part of that Liquor, contain'd in the Arteries, commonly called *Serum*; which Serum is adapted or made fit by the Pores of the parts it is brought to, to be applied to such places where there is any waste.

waste. But how the parts of matter are modified and adapted so as to constitute a Body, I think would be arrogance in me to pretend to define; but that Bodies of very different natures may, and do receive nutrition and increase from one and the same substance, which in it self seems to be simple and *homogene*, the following Experiments (the one a common one, and known to every body, the other two made by two of the greatest Men these last Ages have afforded, *viz. Helmont* and *Boyl*) will I suppose clearly demonstrate.

Let a *Crabtree stock*, which has six branches, have into each branch a Graft set, each Graft of a different nature; as for instance, let three of the grafts be of *Pears*, each of a different sort, and the other three of *Apples*, som sweet, som sour; and the Juice brought up into the Stock (which, had the top bin left on, would only have produc'd Crabs) being brought now into the Grafts, is by their Pores so alter'd, that it affords not only nutrition and increase to the Grafts, but enables them to bring forth Fruit, each according to its kind: which sight I have seen with great delight.

The second Experiment was made by that great Inquirer into Nature's Secrets, *Helmont*, as follows. He took two hundred Pound of *Earth* dried in an Oven, and having put it into an Earthen Vessel, and moisten'd it with

* Water,

Water, he planted in it the branch of a *Willow-tree* of five pound weight ; this he watered as need required with Rain, or with distilled Water : and to keep the neighboring Earth from getting into the Vessel, he used a Plate of Iron tinn'd over, and perforated with many Holes. Five Years being effluxed, he took out the Tree and weigh'd it, which, computing the Leaves that fell four *Autumns*, he found to weigh one hundred sixty nine Pounds, and about three Ounces : And having again dried the Earth it grew in, he found it wanted of its former Weight of two hundred Pound, only about two Ounces ; so that one hundred sixty four Pound of the Roots, Wood, and Bark, which constituted the Tree, seem to have sprung from the Water only.

The third Experiment, being Mr. *Boyl's*, was this. He ordered his Gardiner to dig up a convenient quantity of good Earth, and dry it well in an Oven, to weigh it, and then to put it into an Earthen Pot, almost level with the surface of the Ground, and to set on it a select Seed of *Squash*, which is a kind of *Indian Pompion*, that grows apace ; this Seed he order'd him to water only with Rain or Spring-water. The Plant flourish'd and grew apace ; and tho sown too late in the Year by two months, yet being gather'd at the proper Season, the *Pompion*, *Stalks*, and *Leaves*, weigh'd three Pound wanting a Quarter ;

then he took the Earth, and dried it nicely, and found it weigh exactly as much as before.

As a confirmation of the Truth of the two last Experiments, every body knows, that *Mint*, and such like Plants, being set in a Bottle of Water, flourish as much, or more than those planted in the Earth. Now these Vegetables, tho they receive their nutrition and increase from so simple and *homogene* a substance as Water; yet by a Chymical *Analysis*, there may be obtained from them such substances, as are not easily to be mixed with Water, and seem to be of a quite different nature from it: nay, the very same substances, for the most part, may be obtain'd from Vegetables as from Animals, if they are rightly managed. For tho volatil urinous Spirits are generally own'd to be the product of animal substances only; yet I well know, that from almost all sorts of Vegetables, without any addition, only suffering them to putrefy, may be obtained a Spirit and volatil Salt, no way differing from that of *Hartshorn*, and human Blood. From all which I gather, that if the great variety of Vegetables, which are of such different natures, have their nutrition and increase from so simple a Body only as Water; I know no reason to doubt that all the parts of a Human Body, or other Animals, may have their nutrition and increase from the Serum of the Blood, which is analogous to Water.

When

'When there is, by any accident, a Division made in the fibrous parts of the Body, which is what we call a Wound, (and by the way I think there is no difference, only *secundum majus & minus*, between those waxes made by *Transpiration* which are natural, and a Wound made by *Force* which is preternatural) Nature her self would in a small time make a Union, if she was not hinder'd, but assisted. Now I shall endeavor to make appear, that by the common Methods and Medicins of Chirurgeons she is hinder'd, but assisted by mine; which is all not only in this case, but in all others where Nature is oppress'd, that is requir'd of Physicians or Chirurgeons; who are, or at least ought to be Ministers of Nature, and not her Oppressors.

Now to shew wherein lies the unreasonableness of the common Methods of Chirurgeons in the Cure of Wounds, and wherein they hinder and oppress Nature in her most regular Operations: Suppose a Wound be made, and it's no matter where it is; for what will cure a Wound in one place, will do it in another, the matter brought for the nutrition and supply of all the parts being the same. The two Experiments before mention'd are sufficient to confirm, that what will afford nutrition and increase to a muscular fleshy part, may do the same to a Bone; for the *Pompion* is a soft Substance like muscular Flesh, and the *Willow* a hard brittle substance, analogous to that of

Bones; and yet both had their nutrition and increase from Water only.

Now let a Wound be made where it will, and how it's made matters not, whether it be by Cutting or Contusion; only there is this difference between those Wounds called *incised*, and those called *contused* ones, (tho by the way, I think I may safely affirm, there is no Wound made by incision but may as properly be called a contused one, let the Instrument be never so keen with which it is made, as a Wound made with a Bullet; but not in altogether so eminent a manner, the difference being only *secundum majus & minus*) that there is a larger space between the Lips of the one, than of the other; and consequently Nature is at more charge and trouble, and requires longer time for making a Union of the one than of the other. For tho in both there requires the generation of fresh substance; yet in Gun-shot Wounds there is a greater quantity to be generated than in incised ones, the Lips of the Wound being further asunder; and so of consequence the more work there is to be done, the longer time Nature requires for the doing it.

Let a Division be made in any of the parts of the Body, which, as before observed, is what we call a *Wound* (how it is made matters not, and whether it be by cutting or contusion) the nutritious Juice is immediately brought to the extremities of the wounded
Vessels

Vessels all over the Wound. Now I stick not to call the smallest Fiber, or Fibril, a Vessel; for if they were destitute of Cavities, they could never be nourish'd, much less admit of increase. Now all the Medicins us'd in the common Methods of Chirurgery, are of such a nature, as to relax the divided Fibers so much, that they cannot contain the nutritious matter brought to them, but let it pass into the Wound, where it is by the same Medicins corrupted, and turn'd into that substance we commonly call Matter. Now the Corruption of the nutritious Juice cannot be perform'd without a sort of *Fermentation*; and it is the fermenting Particles, that fretting the Fibers, cause inflammations in Wounds; and by entring into the Blood, and dividing its Texture, cause *Symtomatic* Fevers, which frequently prove so fatal. To confirm the truth of which, I appeal to the experience of all Mankind, who have ever bin wounded (and there is scarce one among a thousand but has received some sort of Wound or other) whether they have not felt pain, and had something of a Fever, more or less, according to the largeness of the Wound, during the time that matter was generating. Now it is evident, that whatever will cause such sort of pain, and create a Fever, must be of a *heterogeneous* nature, and an Enemy to that Body (for I verily believe, that only the Medicins applied are the occasion of all those

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ill Symtoms that frequently attend Wounds) to which it is applied, or into which it is receiv'd. Of the truth of which, even the nature of a Fever is a sufficient confirmation: for a *Fever*, in the terms of many great Men, is nothing else but a *Nixus Natura*, or contention of Nature to throw off its Enemy. Others call a Fever *Sanguipurgus*, or a Purifier of the Blood, which is the same with the former, only in different words. And a late learned Author, the worthy Dr. Cole, in his Treatise of *Intermitting Fevers*, the only rational Piece in my opinion that ever was writ on that Subject, plainly makes it appear, that the seat of Agues is in the *Cortex* of the Brain, from whence, at certain periods of time, the matter is thrown off, by the mediation of the Nerves, to all the parts of the Body, which causes that Coldness, Rigor, and Horror perceiv'd at the beginning of a Fit; this matter being afterwards receiv'd into the Blood by the Capillary Veins, which are every where dispers'd, and being of a heterogeneous nature to the Blood, puts it into a violent motion and agitation, in order to throw it off: which irregular motion never ceases, till all the matter causing it is thrown out by the external cuticular Pores. I could use many more Arguments, to prove, that not only *Symptomatic* Fevers, but even all sorts of continued ones, do proceed from heterogeneous Particles being admitted into the Blood, which for brevity's sake I shall omit.

Now,

Now, after they have with so much hazard and trouble generated matter (tho many times instead of generating matter, their suppurating Medicins cause Mortifications in the parts, especially if there be an ill habit of Body before-hand ; the bad consequences of which every body knows, but especially to their sorrow those who have experienced it themselves) they use *mundifying* Medicins ; and when Nature is almost tir'd and oppress'd, weak as she is, they leave her to do her own work : and for my part, I don't at all see or understand, that she is in the least assisted by the Medicins they afterwards use.

But what I have bin hitherto saying concerning their Medicins and Practice, relates only to external *Flesh-wounds* ; and if such hazard attends the cure of these Wounds, what is to be expected in those within the Cavity of the Body, where the Lungs, Liver, Guts, &c. chance to be wounded ? In such cases their Medicins are by themselves own'd to be insufficient. And if at any time it happens, that any of the forementioned parts are wounded, and the Party recovers, themselves account it almost miraculous, because such Wounds, by the general vogue of the greatest Chirurgeons, are accounted mortal, and not without reason : For to bring a Wound in the Lungs, Liver, Guts, &c. to suppuration, is to bring certain Death ; and to cure a wound without bringing it to suppuration, they don't pre-

pretend. So that if any of the forementioned Wounds are cur'd by them, it is to be attributed to som strange and secret Operation of Nature unknown to every body, and not to their Skill: for he only is accounted skilful in the cure of any Malady, the most of whose Patients recover; but such as have not one in ten of their Patients that don't miscarry, are not to be accounted so: And I verily believe, that not one in ten of those wounded in the Cavity of the Body, and managed after the common Methods of Chirurgeons, have recover'd. So I leave it to every man's Judgment, which Method is most to be confided in, either that where scarce one in ten miscarries, as in mine; or the other, where not one in ten recovers, as in the common Methods of the Chirurgeons.

Besides the Inconveniences and Insufficiencies of their Methods and Medicins already mentioned, there is still another as great, *viz.* when any large *Blood-Vessel* is wounded, how to stop the *Flux* of Blood; which is not to be perform'd without either actual or potential *Cauteries*, the inconveniences of which almost every body knows: nay, Cauteries themselves are not to be trusted without very strict bandage, which always, or for the most part, causes Mortifications; the necessary consequences of which is loss of Limbs or Life, many times both, as I have seen with great regret.

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In all Wounds, tho but flesh ones, of any consequence, they confine their Patients to the lowest Diet imaginable, forbidding them to eat Flesh, or drink Wine; and tho there has bin great loss of Blood before at the Wound, yet they seldom or never fail, to the great weakning of their Patients, to let Blood in great quantities, which they often repeat, to prevent the increase, and for taking off the Fever, which always more or less attends them, and in spite of all they can do, frequently proves of fatal consequence.

I have not mention'd their *Tenting*, *Probing*, and other nonsensical trumpery, which is still used by most Chirurgeons, to the great detriment of their Patients, because many judicious Chirurgeons in all places begin to leave them off; who, I question not, will be glad to change their old insuccessful way of Practice altogether, when once inform'd of a better and more certain Method.

To give an account of the Methods I use in the cure of Wounds, will not take up much room, they being short and easy, and not round about, as the common Methods are. However, that I may do it somewhat clearly, I shall begin with *incised* Wounds, so called; and next proceed to give an account of *contused* ones, made with shot or the like: First, where only the *muscular* fleshy parts are wounded; and secondly, where the *Bones* are broken and shatter'd to pieces, and the
Tendons

Tendons torn: which last sort of Wounds I have not touched upon in my account of the unreasonableness of the Methods commonly used in the cure of Wounds; for if there be such hazard and trouble in the cure of incised Wounds, all will allow, that it must be so in a much more eminent degree in such Wounds as these. Suppose a Wound be made with a Sword, or other cutting Instrument, the length or depth of which signifies nothing; I make a Solution of my *Powder* in Water, for want of which in Urin: and as soon as conveniently I can, the sooner the better, I either squeeze, or with a *Syringe*, if the Wound be deep, inject into the Wound some of the said Solution: I then close the Lips of the Wound together, which if wide and large, I stitch up. When I have so don, I apply a *Pledget* of fine *Tow*, wet in the said Solution, to the Wound, not letting it go into it, but only to cover the edges of it, and lie all over it. And if there chances to be any large *Artery* cut, I hold on the Pledget close with my Hand till the Flux of Blood ceases, which will be in a small time, otherwise not; afterwards I bind it on with a very easy Ligature, then I give my *Tincture* in Wine, and repeat it according to the Directions at the latter end of the Book.

Now to prove my Medicines agreeable to the Nature of Human Bodies, and of that Juice by which I conjecture (for to be sure I cannot) the Body is nourish'd, and more efficacious
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than the Medicins used by Chirurgeons, the following Arguments will, I suppose, evince; they not being the effects of Fancy, but of most certain and reiterated Experiments.

First of all, my Medicins never cause any Pain, unless it be just when the external one is squeez'd or injected into the Wound, and that pain is very little more than what would be caused by using Spring-water in the same manner.

Secondly, There is no Pain afterwards, but the parts are pliant and easy, as if not hurt at all.

Thirdly, if there has bin great Pain before, according as it has bin greater or less, so it has bin longer or shorter before taken off, but the greatest in a short time. As when a Wound had bin long receiv'd, and had other Applications to it before mine, had bin much inflam'd, and the parts adjacent much swell'd, and consequently the Party in great pain; all these Symtoms have bin totally taken off in 24, or 48 hours at furthest; and many times in such Cases, the greatest Pain taken off in a few minutes. But they have never bin the cause of pain, swelling, or inflammation; which by the way is a certain argument they are no *Cauties*, as som maliciously and falsely report.

Fourthly, There has never any such thing as a Fever, let the Wound be internal or external, attended any who have used my Medicins

cins soon after they have bin wounded ; but several who have bin ill manag'd before, and thrown into violent Fevers, have in 24 hours, by the use of my Medicins, bin totally freed from them, and that without Blood letting, or abstaining from Flesh or Wine ; the more of which they drink, so they keep within bounds, I always find them the better.

Fifthly, In all incised Wounds, where my Medicins have bin soon enough used, and no other Application preceded, they are perfectly cur'd in a few days, without suppuration ; and I have frequently observ'd that at about four days end, such Wounds have bin filled with a Substance much like *Hartshorn-gelly*, which I have conjectur'd to be young Flesh ; and in two or three days I have found my conjectures true, the said Substance being converted into good Flesh. But where Wounds have bin long receiv'd, and matter generated, they have bin cured in a small time, without repeating the Application above once in three or four days. I have had to do with Wounds long receiv'd, which have bin both deep and large, and by the common Methods must have discharg'd a great quantity of matter ; but the quantity of matter com away after using my Medicins has bin so small, that I have good reason to conjecture, it was no more than what was form'd before they were applied.

• As for Gunshot Wounds in any of the fleshy parts,

parts, they are cur'd in the same manner with the former, and without the least ill Symptom; only with this difference, that whereas in incised Wounds, if my Medicines are applied as soon as, or presently after, the Wound is receiv'd, there is little or nothing comes away from them; but in Gunshot Wounds, the *Glands* and *Lymphatic* Vessels being broke and torn to pieces, there is for some time a considerable quantity of the watry matter contain'd in those Vessels discharged out of the Wound; and the loss of substance being great, they require a longer time to cure.

But some may object, How is it possible, without bringing the Wound to Suppuration, to cause a discharge of extraneous Bodies, as pieces of Clothes, Splinters of Bones, &c. which for the most part are lodg'd in Gunshot Wounds?

To which I answer, That the said watry Liquor being continually discharged out of such Wounds, and the parts adjacent not being swel'd, as they never are so as to close up the Orifice of the Wounds; by means of the said Liquor they are brought away without any hazard or trouble, and for the most part without any pain at all, especially if of a passable bigness; if not, the Orifice must be dilated to make way for them. And as for that *Slough* of which some make so great a noise, it is also by means of the Liquor brought away without any digestion, it being nothing

but a complication of torn and broken Fibers lodg'd about the sides of the Wound. As for broken Bones, they being put into their right posture, the nutritious Juice brought to them fills up the void spaces, and by the Texture of its parts in a little time grows as hard as any other part of the Bone. What has bin said of Bones and Flesh, may be said of Tendons (the wounding of which was heretofore accounted as fatal as any thing; and being of a *mucilaginous* nature, digestive Medicins were wont to rot and destr'y them, and so cause Mortifications) so that their ends, if totally divided, can be brought any thing near together; which if it be not possible to be don, as for the most part it is, there is no other ill consequence, but losing the use of that part to which it belongs.

From what has bin said, I think I may rationally infer, that my Medicins are agreeable to Nature, and assist her in her regular Operations: And on the contrary, that the common Medicins are disagreeable to Nature, and hinder her in her Operations.

As for instance: Two Officers of the Regiment of *Fusileers*, that were wounded, were in the same Tent together: the one of good Habit of Body, had receiv'd a slight Wound in the Arm; his Wound had bin receiv'd three weeks, and was manag'd according to the common Methods; his Arm was much swel'd, greatly inflam'd, and he in great pain, and
not

not like to be well in a long time. The other of a very ill habit of Body, had a Sword run thro the most fleshy part of his Thigh, the Orifices on each side 3 Inches long; and yet being managed according to my Methods, in a little above a week was perfectly well, having felt no pain from the beginning.

Their Medicins corrupt the nutritious Juice, and turn it into Matter. My Medicins being friendly to the nutritious Juice, prevent it from degenerating or corrupting; by which it is capable of performing the work design'd it by Nature, which is to fill up all Vacuities, either naturally or forcibly made, and is performed in the manner following. The nutritious Juice being by the Arteries brought to the Parts, the Particles of it are by the Pores of the Parts so modified, as to form a Body like that thro whose Pores it pass; from whence it is easy to imagin, how very large spaces forcibly made may be again fill'd up with fresh Substance, like what was there before.

Their Medicins cause inflammations and swellings, and consequently pain in and about Wounds: Mine not so.

Their Medicins either *per se*, or by accident, seldom or never fail to cause Symptomatic Fevers: Mine not so; but on the contrary either prevent, or take them off when fixed, without starving and destroying Nature for want of necessary Aliment.

By their Methods and Medicins they can't stop Fluxes of Blood without most dismal Consequences. My Medicins stop Fluxes of Blood with ease and safety, and at the same time cure the Wounds.

To confirm what I have said, I refer to the following Experiments, of the Truth of which 'tis no difficult matter to be inform'd.

To conclude all ; I would not have any to understand me, as if I positively asserted, I can cure all sorts of Wounds, and that no one shall miscarry under my Hands : for whoever dos so is greatly mistaken ; and I must own there may be a few unlucky Wounds within the Cavity of the Body that may elude the efficacy of my Medicins ; yet that most of 'em may be cur'd with all the ease imaginable. But for External Wounds, let them be what they will, I think there are few or none, if people will be regular, but may be cur'd without hazard or inconvenience.

Experiment .I.

John Mabullon, an Irish man, in the Regiment of Col. Brewer, in the Company of Capt. Puryffe, was in a Rencounter run thro the left Arm, and into the left Breast between the second and third Rib, on which he presently fell down as dead. He says, he found the Sword pass into the inmost part of his Breast.

Breast. Immediatly he had a great difficulty in breathing, and a weight upon his *Diaphragme*, likewise a great quantity of *spumous* Blood and Air gush'd out at the Wound in his Breast; which Symtoms, I suppose, are a clear demonstration that his Lungs were wounded. Mr. *Chomly*, Chirurgion to the Regiment, immediatly applied my external Medicin, which stopt the Flux of Blood at both parts, which at the Wound in his Arm was also very great. But he did not give the internal one, as he ought to have don that Night; so his shortness of Breath, and weight upon his *Diaphragme* continued: but the next Morning giving it him, he was immediatly freed from those Symtoms, and that day march'd on foot six miles with the Army, and was not in the least out of order, or had any thing of pain after; neither did he at all confine himself to his Tent.

Experiment II.

ONE *Paterfon* a Scots-man, in the Regiment of the Right Honorable the Lord *George Hamilton* (now Earl of *Orkney*) was about 8 a clock one Evening run into the Belly about two Inches above the Navel on the right Side; the Sword, as himself and other Spectators say, enter'd at least 7 or 8 Inches, and being a very broad one, could not fail of doing

much mischief. I may conjecture, for to be positive no man can, that the Sword past thro the Liver; and the Symtoms attending him do, I believe, plainly demonstrate that the *Intestins* were also wounded. By his Lordship's Command I was sent for to take care of him; but not being at home, Mr. *Chomly* went to him, and in his Lordship's presence applied the external Medicin, and gave him the internal one in a large Draught of Wine as usual. After he had taken care of him, he immediatly applied himself to find me, to give me an account of our Patient's condition; but his Account was so scurvy a one, that I was sorry he had medled with him, which had I bin there, I should not have don, by reason my whole Reputation lay at stake; for it was but two days before that his Majesty was graciously pleased by public Orders throout the Camp, that notice should be given to my most worthy Friend Sir *Henry Belasis*, of the first Man wounded, that he might see whether I were capable of performing what I pretended to. Now the Symtoms that attended this Man were violent Vomitings, and an intolerable Soreness and Pain about his Belly and in his Bowels; and for that Night he had no rest at all. In the morning when the General saw him, his circumstances were little or nothing better; but towards the Evening he began to rest, and before next Morning his ill Symtoms totally vanished. For two days he had no stool; and

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when he had one, it was scarce any thing but coagulated Blood. On the fourth day he was able to go with me to Court, where the General and other Officers saw him very well. Besides the foresaid Wound, he was also wounded in two other places, and much bruised, of all which he perfectly recover'd.

Experiment III.

MR. *Lane*, a Voluntier in the Regiment of Sir *Bevil Greenvil*, was in a Rencontre run into the left Pap: the Sword, by all accounts, enter'd a great way into the Cavity of the Breast. The Chirurgion of the Regiment was by Sir *Bevil's* Order sent to take care of him, who presently returned and told Sir *Bevil* that he was a dead Man, and all the World could not save him; for that he no sooner thrust his Probe into the Wound, but it was beat back by the Pulsation of his Heart: he likewise told the same to Mr. *Willy* Chirurgion to Col. *Selwin's* Regiment, and to several others; but withal, in a ridiculing manner, said, they might send for their famous Doctor, meaning me, and if he could cure him, he would fight Duels every day. I was sent for, but being ill could not go; so I sent Mr. *Chomly*, who notwithstanding his ill Circumstances, being animated by what he had before seen, was not afraid to take him into his care;

tho the Symtoms that attended him were as bad as could be, and he alive. He had strong Convulsions, Shortness of Breath, a great Load upon his *Diaphragme*, and a large quantity of *spumous* Blood gush'd out at the Orifice of his Wound, together with such a Blast of Air, that it was almost equal to an ordinary Pair of Bellows. He applied the external Medicin, and gave him the internal one, which immediately reliev'd him; but for 48 hours my Friend Mr. *Hamstead* was forc'd to keep a Guard upon him, for fear the Chirurgeons should do him a mischief, who before attempted to play me som slippery Tricks. At the end of which time Mr. *Lane* sent me word, he could lie on the vvounded Part vvithout the least pain; and that my Friend need not give himself any more trouble, he being as vvell as ever in his Life, only vvweak vvith the great loss of Blood: Accordingly my Friend left him. But the next Evening there came betveen tvventy and thirty Chirurgeons, vvho by violence (I suppose having before made him drunk) pull'd off the Dressings from his Wound, vvith no other design, as I can imagin, than to murder him, having applied nothing in its room, but left the Wound bare; in vvwhich posture it continued all Night. My People going next Morning to visit him, he told 'em the Story; and vvithal said that every thing vvvas vvell, his Wound being so far heal'd before, that their pulling off the Dressings did him no

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harm : howvever, they made another Application, which, to the best of my remembrance, was the second and last that was made. But from the beginning he took the Tincture once in five or six hours in a large Draught of Wine. I have since seen him on the long march, walking on foot, when he told me he was as well as ever in his Life. This Man had as ill a habit of Body, as it was possible to have.

Experiment IV.

MR. *Fletcher*, a Lieutenant in Col. *Fitz-Patrick's* Regiment of Fusileers, was in a Rencounter run thro the most fleshy part of his right Thigh ; after the Sword was in up to the Hilt, he and his Antagonist clos'd, and fell upon the Ground, where they continued strugling a considerable time, the Sword being still in Mr. *Fletcher's* Thigh : but Company coming in, they parted 'em, and pull'd out the Sword, and sent for Mr. *Chomly* to take care of him, who when he came, found the Orifices on each side at least three Inches long, and very wide ; from which proceded a very great Flux of Blood. He first squeez'd som of the Solution of my Pouder into the Wound, then stitch'd it up, and applied som Pledgets of Tow, wet in the Solution, to both Orifices ; afterwards he gave him the Tincture in a glafs of Wine, which was repeated once in

5 or 6 hours, for three days. In one week's time he was able to walk abroad ; he publicly declar'd that from the first time my Medicins were applied, he felt no more Pain in or about the Wound, than if he had never bin hurt at all.

Experiment V.

MR. Pool, a privat Gentleman in the Honorable Brigadier Lumley's Regiment, in the Troop of Capt. Billingsly, was near his Majesty's Quarters at Rosebeck, with a Sword run into the Stomach : he had immediately a very great Flux of Blood, both at the Wound, and at his Mouth ; but that at his Mouth was far the greatest. Several of the Servants belonging to his Majesty, who saw him bleed, do positively declare, that, according to a modest computation, he lost at both places two *Field-measures*, which are four English Quarts of Blood, before my People came to him. He was so convulsive, that all who saw him, thought it impossible for him to live an hour : but my Medicins being us'd according to the usual Method, the Flux of Blood immediately stopt ; and he, as almost all my Patients have, declar'd that within a minute or two after taking the Tincture, he found himself refresh'd and reviv'd beyond expression ; and presently his Convulsions left him, and that Night he slept very well. On the

the morrow a Rumor, by whom rais'd I know not, was spread about the Court, that he was dead; but my Friend Mr. Sell, a Page of the Back-stairs to his Majesty, going to the Tent where he lay to enquire into the truth of it, instead of finding him dead, saw him heartily knowing of tough, ill boil'd Mutton, which he forbid him to do; so he left off, but withal said, *Sir, if I must not eat, I'll drink to you*; then took up a Quart Pot of strong Mecklin Beer, and drank it off. About 3 days after the Army march'd from Rosebeck to Mount St. Andrew, and he in a Waggon to Tirlemont: But next day, there being a Rumor that the Army was to engage, he came from Tirlemont to the Camp. His Captain asked him what he did there; he answered, *That he came to fight*: the Captain replied, *Sure you have enough of Fighting already*; No, says he, *I fear not Fighting now, and tho I was so lately wounded, and lost so much Blood, I am as able to fight as any Man in the Regiment*. This Discourse between his Captain and him he told me of on Sunday Morning, which was but five days after he was wounded. About three days after he was seen by his Majesty and several great Officers, being then very well, and so continu'd till I left the Camp.

Experiment

Experiment VI.

A Privat Soldier, in the Regiment of Col. *Collingwood*, had with a broad Sword, his *Sternum* or Breast-bone divided; the Sword likewise past into the Body of his Lungs. From the Wound gush'd forth such a vast Quantity of Blood and Air together, that Mr. *Chomly* declared, he could scarce with his Hand keep on a Dressing; so to bring the Lips of the Wound together, with a Needle and Thred he sew'd up the Wound; but the Force of Air was so great, the Flux of Blood being before stopt by my Medicins, that he was forc'd to make his Stitches in the external part of the Bone, which is gristly, the Skin not being strong enough to hold them. The Man was for that Night attended with most dangerous Symtoms; but on the morrow, continuing to take the Tincture, they left him: He staid in the Camp three days very well, only weak with the great loss of Blood. The Army being to march, his Weakness was such that he could not walk far on foot; so, contrary to my knowlege, he was sent to the Hospital, but wanted no other assistance there, than to recover his Strength: He staid there som small time, but is since return'd to the Camp vigorous and well.

Experiment

Experiment VII.

A Privat Soldier, in the Regiment of Sir *James Lesley*, was also wounded in the Lungs; and Sir *James* himself told me he was by several Chirurgeons given over for dead. His Wound had bin a Fortnight or more receiv'd, and was in a very ill Condition: he had a great quantity of Blood discharg'd into the Cavity of his Breast, which lying there so long, vvas degenerated into the most stinking sort of *Pus* or Matter; and had likewise a most violent Fever. Yet notwithstanding his Condition vvas such, by the repeated use of my Tincture, he was in 24 hours freed from his Fever, and had all the corrupted Matter thrown out of his Breast; and his Wound, by twice applying my external Medicin, in a week's time vvas cur'd.

Experiment VIII.

MR. *Wright*, a Quarter-master in the Regiment of Col. *Langston*, vvas vvith a Sword run in just below the right Arm-pit; the Sword past thro the middle of the Lungs about ten Inches. He had immediatly a great Flux of Blood, both at the Wound and at his Mouth,

Mouth, vvith a great shortness of Breath, and violent Convulsions. Lieut. Col. *Morton* being at hand, and having som of my Medicins by him, sent his Man for them; vvich vvhen he had brought, he gave him Directions how to apply them. The Colonel told me afterwards, he never saw so sudden, and so great an Alteration in any one in his Life: For that just before he took the Tincture, he had so violent Convulsions, and such a shortness of Breath, that himself and all that saw him, thought him near expiring; but in a few minutes after taking it, those Symtoms totally left him. But the poor Gentleman fearing something might be omitted, sent for me; but I being ortherwise busy, sent Mr. *Ghomly* and Mr. *Hamstead* to him, vvho found every thing vvell: but for security, Mr. *Hamstead* staid that Night vvith him, and in the Morning brought me vvord, that for the first part of the Night he vvvas somewhat restless; but about two a Clock he began to sleep, and continued sleeping till he came away. That day I vvvent to visit him, and found him in a very good condition, free from a Fever, or any disorder in or about his Wound; only he spit Blood a little, vvich, I suppose, vvvas occasion'd by a Cough he had for seven Years before, vvich being violent, besides the ordinary Motion of his Lungs, must necessarily much impede the healing of 'em vvhen vvounded: Notvvithstanding vvich, in four or five days he vvvas
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able to vvalk abroad, being very vvell, only vvweak vvith great los of Blood. Six weeks since he vv as vvounded, I frequently saw him at *Ghent*, vvhen he told me, he vv as as vvell as he had bin for several Years.

Experiment IX.

A Soldier in the Regiment of the Right Hon. the Lord *George Hamilton* (now Earl of *Orkney*) being out a foraging, vv as vvith a Bullet, or rather tvvo, shot thro the back part of his Hand; the Bones of the *Meta Carpus* vv ere all shattered to pieces, and the *Tendons* much torn, vv hich vve could plainly see, the Wound being so very vv ide. It vv as first drest by Mr. *Willy*, Chirurgion to Col. *Selwin's* Regiment, being receiv'd about ten a Clock in the Morning. I being that Afternoon at his Majesty's Quarters, my Lord told me of the Accident, desiring me to take care of the Man: Accordingly, about nine in the Evening, I vv ent to his Tent, and sent for Mr. *Willy*, vv ho told me, that the Man's Hand, by the common Methods, could not be sav'd; but if I could do it, he vv ould stand my Friend against all Opposers: So I requested him to pull off his Dressings, vv hich vv ere only Pledgets of dry Tow; vv hich having don, Mr. *Chomly* applied my external Medicin, and gave him the Tincture in a large Draught

Draught of *Old-hock*. His Hand and Arm vvere much swel'd and inflam'd, and he in most intolerable Pain. On the morrow I vvent again to see him, and found both Swelling and Inflammation gon, and he at ease. About four days after Mr. *Chomly* opened the Wound, to make a fresh Dressing, vvhich vve found in a very good Condition, and not in the least digested, or brought to Suppuration: but a thin ferous Matter, a little tinged with Redness, vvhich I suppose to be discharged out of the Glands and lymphatic Vessels, came away, which when it had lain som time upon the Dressings, vvas subject to stink; but that which came fresh out of the Wound, was as sweet as a Rose: This Substance vvas quite different from vvhat vve call *Gleet*. The next time it vvas drest, it look'd better than before, and he could begin a little to stir his Fingers; at this Dressing (his Comrade next to be mention'd being also then drest) a great many Gentlemen and Chirurgeons out of Curiosity were by, vvho all declared they never saw any Wounds look so vvell in their lives; and then he could stir all his Fingers. Within a fevv days the Army began to march, and he vvalk'd every Day of the long March, unless it vvas the first, vvhen I got leave for him, and his Comrade in Affliction, to ride three or four miles. Before vve came to the end of the long March, he told me he could lay the vvounded Hand on the Back of a Horse of 15 Hands

Hands high, and without any other assistance, leap upon his Back. He had at several times at least fifty small pieces of Bones came away; and after they were all discharged, his Hand was suddenly well.

Experiment X.

ANother Soldier of the same Regiment was at the same time wounded in three places of his Body. He had two Bullets, at about an Inch and half distance, enter'd near the middle of his Back on the right side, and were cut out by Mr. *Willy* about seven Inches from their Orifices on the same side. Another Bullet enter'd a little below on the same side, and was cut out just above the Navel, being about nine Inches from its first Entrance. Tho the other two had not, grazing upon the Ribs, yet I have great reason to believe this did penetrate the Cavity of the Body. This Man we found in most intolerable Misery, having a violent Fever; and the last mentioned Wound, in all appearance, began to mortify, both Orifices looking very black, and a very ill smell coming from them. Mr. *Chomly* applied my external Medicin, and gave him the Tincture, which, according to Custom, was repeated in five or six Hours. His Pain and Fever lasted about 30 Hours, when they both left him, and in three or four Days he walked abroad.

D

When

Draught of *Old-hock*. His Hand and Arm vv ere much swel'd and inflam'd, and he in most intolerable Pain. On the morrow I vv ent again to see him, and found both Swelling and Inflammation gon, and he at ease. About four days after Mr. *Chomly* opened the Wound, to make a fresh Dressing, vv hich vve found in a very good Condition, and not in the least digested, or brought to Suppuration: but a thin serous Matter, a little tinged with Redness, vv hich I suppose to be discharged out of the Glands and lymphatic Vessels, came away, which when it had lain som time upon the Dressings, vv as subject to stink; but that which came fresh out of the Wound, was as sweet as a Rose: This Substance vv as quite different from vv hat vve call *Gleet*. The next time it vv as drest, it look'd better than before, and he cou'd begin a little to stir his Fingers; at this Dressing (his Comrade next to be mention'd being also then drest) a great many Gentlemen and Chirurgeons out of Curiosity were by, vv ho all declared they never saw any Wounds look so vv ell in their lives; and then he could stir all his Fingers. Within a fevv days the Army began to march, and he vv alk'd every Day of the long March, unless it vv as the first, vv hen I got leave for him, and his Comrade in Affliction, to ride three or four miles. Before vve came to the end of the long March, he told me he could lay the vv ounded Hand on the Back of a Horse of 15 Hands

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D

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When he was next dress'd, which was about four Days from the first Dressing, the two first Wounds look'd very well, but the last not so well. But at the third Dressing there came out of the last Wound many Pieces of his Clothes, and that without any Digestion at all, only a great Quantity of the foremention'd ferous Matter came from all the Wounds. In about 3 Weeks all the Wounds were filled with good Flesh, and only wanted skinning; but being forc'd to march with the Army on Foot for many Days together, the great Motion of his Body, with the moving of his Clothes, fretted the wounded Parts, and kept them from skinning, and likewise caus'd a little proud Flesh to grow up, which, when he came to have a little Rest, soon vanished, and the Wounds were presently well.

Experiment XI.

AN Ensign in the Honorable the Lord *Belcastle's* Regiment, in defending a Pass against a Party of *French*, was with a Musket Bullet wounded in the Head; it entred a little below the Temple, past on, and tore the *temporal Artery* asunder, and graz'd further on the Skull about four Inches. By his Majesty's Order I went to take care of him; when I came, I found he had bin dress'd by the Chirurgeon of the Regiment, whom I sent for to pull
off

off his Dressings, which were hard Dossels of Tow dipt in Spirit of Wine, he having cram'd the Wound, which was an Inch wide, with 'em as full as it could hold. After his Dressings were off, Mr. *Chomly* applied my external Medicin, and gave him the Tincture. His Head and Face were much swel'd, and he something feverish. On the morrow I went to visit him, when the Swelling was quite gon, and his Fever left him; and in about a Fortnight, his Wound, tho so wide, without being brought to Suppuration at all, was perfectly well. In the mean time he never confin'd himself to his Tent, but march'd on Foot with the Army, and declared, that from the time my Medicins were applied, he felt no more Pain, than if he had never bin hurt.

Experiment XII.

A Privat Soldier in the Regiment of the Honorable Major Gen. *Le Mullinier*, was wounded at the same time with the fore-mentioned Officer; but of him I had no notice till the Morrow, when the Major General, I being at the Officer's Tent, sent to me, desiring me to take care of him. I found he had before bin drest by the Chirurgion of the Regiment; for whom I sent to pull off his own, and apply my Medicins, Mr. *Chomly* not being with me. The poor Man had one

Musket Ball enter'd at the corner of his right Eye, and passing thro the *Os Spongiosum*, or spungy Bone of the Nose, came out at the left Eye, tearing that all to pieces. Another Bullet enter'd at the last Orifice, past thro the upper *Mandible*, or Jaw-Bone, and came out at the corner of the under one. These two Wounds were cram'd as full as they could hold with hard Dossels dipt in Spirit of Wine, which I order'd to be pulled out: which tho perform'd with the greatest difficulty imaginable, and putting the poor Creature to most intolerable Pain; yet his Bravery of Spirit was such, that he never so much as smayed at it all the time it was doing. After the Chirurgion had, as he said, pull'd out all the Dossels, I desired him to inject som of the Solution of my Pouder thro both the Wounds; thro the first it past very well: and tho we tried at both the upper and lower Orifice of the last, we could not get any thro; so I concluded there must be still som Dossels behind, as it afterwards appeared; but the Wound being very deep, he could not com at any of 'em with his *Forceps*; so we were forced to bind it up as it was. His Head and Face were swel'd to such a prodigious Bigness, that he look'd like a Monster; he had likewise a violent Fever, which by the taking of my Tincture was soon abated, and in two Days the Swelling of his Head and Face was quite gon down, and he free from any Pain at all, tho there were still

still 3 large hard Dossels left in the last Wound. About five Days after he was wounded, the Army began to march, and he on Horse-back went the whole March; and tho exposed to Wind and ill Weather, felt no Pain or Disorder in or about his Wounds. About the sixth Day of the March, Mr. *Chomly* having pull'd off the Dressings to make fresh ones, the Dossels of the thickness of a Man's Thum came out at the upper Orifice of the last Wound, without any trouble or pain at all: At that time the lower one was almost clos'd up, and afterwards the upper one began to mend apace; in a little time his Wounds were cured, and he is now in this City very well, his Face not in the least disfigured, only by the loss of his Eye.

Experiment XIII.

MR. *Lorridg* a Lieutenant in the Hon. Brigadier *Lumley's* Regiment, in a Rencounter receiv'd a slight Wound under the right Arm-pit, the *Axillary* Artery being also prick'd; on which ensued a large Flux of Blood, which was soon stopt, or rather pent in, by Mr. *Englisb*, Chirurgion to the Regiment. He was about a Month manag'd by Mr. *Englisb*, and Mr. *Hall* principal Chirurgion to the English Hospital: After which he had a fresh Flux of Blood; and before he had

any Help, I suppose by what I saw in the Bed, and in his Breeches, he lost 7 or 8 Pound of Blood : At last the Chirurgeon's Mate of the Regiment coming, with a very strait Ligature stop't the Bleeding; and then sent for Mr. *Hall*, who immediatly came, but seeing how the case stood, sent for som of the most eminent Chirurgeons in *Ghent*, where the Lieutenant then was; to his assistance. They were at least 5 hours using their utmost Endeavors to stop the Flux of Blood, which, tho they several times used red hot Irons, they could not do. At last Mr. *Hall* came to me, and desired me to go along with him; which, tho I knew that on all occasions he had spoken reproachfully of me, I readily granted. When I came, I found the poor Gentleman in a deplorable condition, his Arm being most prodigiously swel'd, and absolutely mortified by their hard Ligature, from his Fingers ends to his Shoulder, and his Spirits so exhausted by the loss of Blood, and the intolerable Pain they had put him to, that it was impossible he should survive many hours: yet when the Ligature was never so little loosned, the Blood rush'd forth as violently, as I believe it had don at all. However, to be serviceable to an honest Gentleman in distress, in any manner I could, I prepar'd my external Medicin, which Mr. *Hall* applied; then I order'd the Ligature to be undon, and the Blood seem'd to be stop't: but in a minute, or therabouts, a
small

small quantity issued forth, which we concluded was occasion'd by the Medicin's not sufficiently coming to the Mouth of the Artery, which was so drawn up, the Artery being then totally divided, that the end of ones Finger would scarce reach it; but be it how it would, for security we pull'd off that Dressing, and made a second, which totally stopt the Flux of Blood, without any Ligature or Compress at all. He lived about 5 Hours after; and tho he was very restless, and strugled much, yet there did not one Drop of Blood more appear. I only mention this Experiment, to demonstrate on what slight Occasions many lose their Lives by the common Methods, and how easily such Accidents may be prevented, if my Medicins are timely enough, and regularly used; as in the case of this poor Gentleman: for had my Medicins bin used before his Arm was mortified by their hard Ligature, the Flux of Blood would easily have bin stopt; and then he could not, morally speaking, have miscarried.

Experiment XIV.

I Being at a Coffee-house in *Ghent*, Sir *Wil. Russel*, a Captain in the Regiment of Col. *Coy*, came to me, and desired me to meet him in the Afternoon at a Tavern, to look on a Man's Hand of their Regiment that was hurt, which I readily granted. According to promise,

mise, I went, and found him and the Trooper together. After I had examin'd the Man about his Wound, which had bin receiv'd a Fortnight, his Hand and Arm being mightily swel'd and inflam'd, and he in most intolerable Pain, I desir'd him to send his Comrade for the Chirurgeon, who had before look'd after it, which accordingly he did ; but the Chirurgeon either would not, or was asham'd to com. So, at his request, I open'd the Wound my self, which I found in a most lamentable condition, and beginning to mortify. The Sword enter'd about the middle of the Palm of his Hand, and came out at the top of his Wrist, the two Orifices being about 6 Inches asunder. The Wound being so very deep, I sent my Boy for a Syringe, with which I injected som of the Solution of my Pouder thro the Wound, and afterwards gave him a large Dose of the Tincture in a Glas of Wine. We had not sat above a quarter of an hour, but the poor Man pul'd off his Hat, returning me Thanks in the most affectionat manner imaginable, saying, *Sir, when I came into your Company, I was in most intolerable Pain and Misery, from which I was not to expect deliverance but by the loss of my Arm ; but am now as much at ease as ever I was in my Life.* This was about the 23^d of September ; and since my return to England, I received a most obliging Letter from Sir Will. Russel, dated the 3^d of October, wherein he tells me, that
con-

contrary to his expectation, the Man's Hand was perfectly well.

I could add a great number of Cures wrought both in *London*, and other Parts of *England*, since the first publishing this Tract; but such as will not be convinc'd by those already mention'd, will not, should I add a hundred more.

*Directions for the use of the Vulnerary Pouder,
and of the Tincture of the Sulphur of Venus.*

SUCH a Quantity of the Pouder as will lie on a Silver Penny, may be dissolv'd in a full Spoonful of warm Water; where that cannot be had, you may take Urin. In this Solution you may wet a Pledget, made either of fine Tow or Lint, with which lightly dab the Lips of the Wound, and then squeeze a small quantity of the Solution into it. Then you may apply your Pledget, and bind it on. If the Wound be an incised one, after the Medicin is squeez'd into it, it will be convenient to stitch the Lips together with a Needle and Thred, and then apply the Pledget. Now in incised Wounds, when these Medicins are applied as soon, or a little after the Wound is received, one Dressing is for the most part sufficient, but two are as many as ever need be used; the second Application to be made at the end of 3 or 4 Days: But in Gunshot Wounds, or where there is great loss of Substance, more
Dres-

Dressings are needful, and to be repeated once in about 4 Days. If the Wound be very deep, whether it be an incised or a Gunshot one, instead of squeezing in the Solution, it is necessary it be injected with a Syringe.

As for the Tincture, in all very large flesh Wounds, and those within the Cavity of the Body, it ought to be taken once in 5 or 6 hours, and continued 4 or 5 days: The Dose is half a Spoonful in a Draught of any good Wine, but *Old-Hock* I find best. In slight Wounds to be taken twice a Day for 2 or 3 Days: Tho if it be taken longer it can be no way prejudicial, but the contrary.

In great Fluxes of Blood it will be convenient to hold on the Pledget wet in the Solution with your Hand, till the Flux ceases, which in the greatest Fluxes will generally be in a small time; and afterwards to use very easy Bandage.

I have observed, that in those Wounds where there is little or no Flux of Blood, the weaker the Solution is made, the better; and where there are large Fluxes of Blood, for the stopping of 'em the Solution must be made as strong as may be: but after that is don, a weak Solution will sooner finish the Cure than a strong one.

Where there is only a *Cicatrix* wanting, or for the Cure of old Ulcers, I have found a small quantity of the Pouders dissolv'd in the White of an Egg (which it will immediatly turn into a stiff *Gelatinous* Substance) to do much better than when dissolv'd in any other Liquor.

Novum

*Novum Lumen Chirurgicum
Vindicatum :*

OR, THE
NEW LIGHT
OF
CHIRURGERY.
VINDICATED

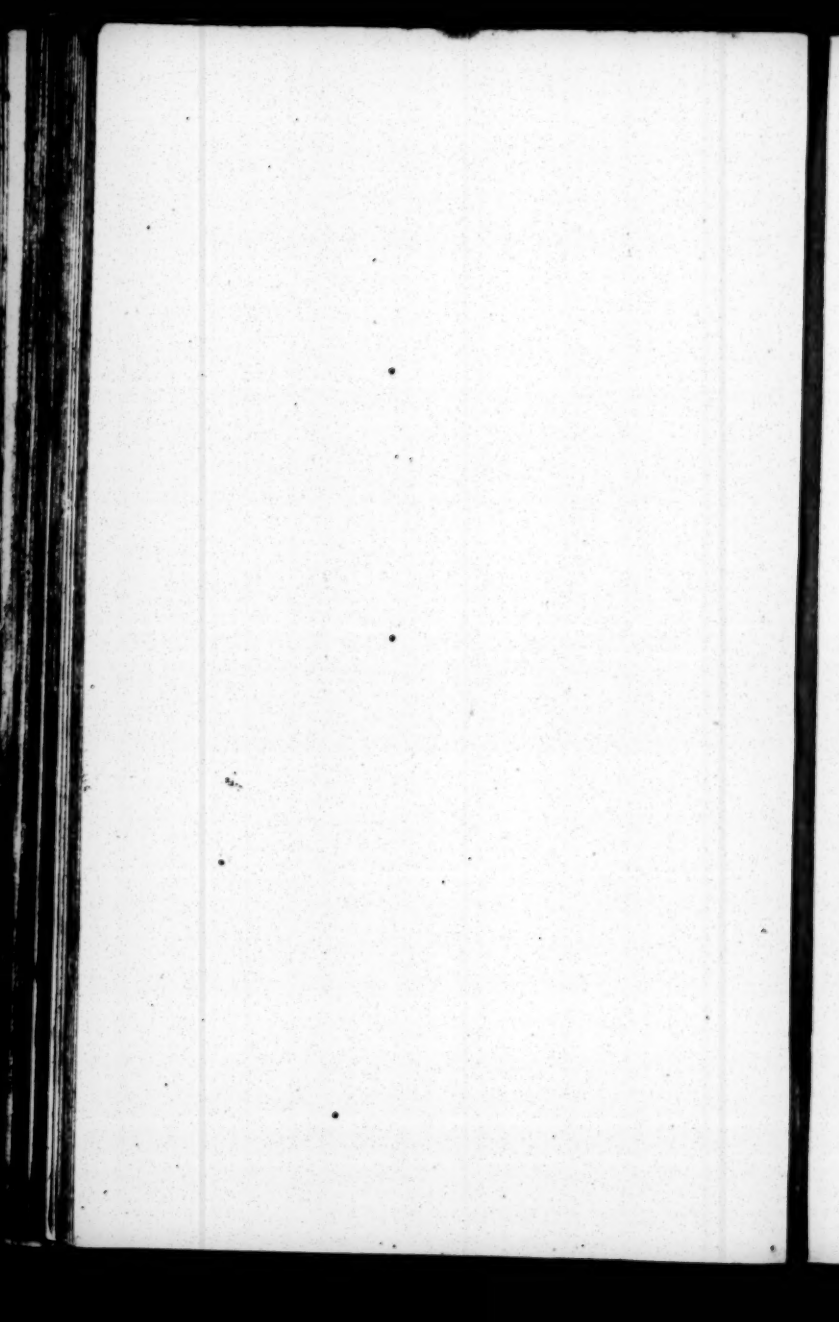
From the many unjust Aspersions of several unknown Calumniators.

With the Addition of some few Experiments made this Winter, 169⁴, in
England.

By JOHN COLBATCH, *a*
Member of the College of Physicians.

The Third Edition:

L O N D O N,
Printed by J. D. for D. Brown, 1698.



To the Honorable
 WILLIAM BLAITHWAYT, Esq;
 Secretary of War.

S I R,

MY Adversaries having dedicated a Piece to You, wherein they desire Your Patronage of Truth, which they pretend to be on their Side; I being likewise sufficiently satisfied that the Greatness of Your Soul is such, as not to be amused with specious Pretences, have presum'd also to dedicate this Tract to You: which, tho I have not had time to put into any Order, yet it contains most indisputable Truths.

I beg no other Favor of You, than that if Truth inclines to my side, You will afford me Your Patronage, which my own Experience is sufficient to assure me; that my Request will be as readily granted as desired. I am,

S I R,

Your most obliged

and Obedient

Servant to command,

JOHN COLBATCH.

TO THE
R E A D E R.

ON the 18th day of this instant April 1695, there came to my Hands a little Libel set forth by my old Friends the Surgeons. At first I thought it would not be worth my spending any time in writing an Answer to it; till at last I concluded, That if I should be altogether silent till the end of the Campaign, they might in my Absence triumph amongst themselves, and make the unthinking Part of the World believe I had given up my Cause, and yielded all for lost. To prevent which, I have (in the midst of my Multiplicity of Business) spent a few hours in composing the following little Tract; which tho I must own to be full of many Imperfections, yet it contains nothing but Truth: and therefore for Truth's sake I doubt not but the Candid Reader will pass over those other Failings with which he may meet.

The Charges laid against me are very numerous; and were they but as true, I must of consequence be the most vile Creature alive.
But

But I having bin used so much to the Scur-
rility, of som of that Fraternity, there is
nothing but I can bear from them. And in-
deed I should be to blame, if I was not con-
tent to give Losers leave to speak; and so much
the more, by reason that their Diana (I mean
their ill Practices being detected, the World
will be so wary as to have a care of them) is
falling into Disgrace; to keep up whose Re-
putation (tho to the great prejudice of Man-
kind) they will not fail to make their utmost
Efforts: A drowning Man will lay hold on
every Twig. To be sure, if making a Noise,
and using ill Language, will do any thing to-
wards the Preservation of their sinking Credit,
that shall not be wanting.

As I have before said, so I say it again,
That both the City of London, and the Eng-
lish Army afford a great many Surgeons, who
are Men of extraordinary Worth, from whom
I have received many Civilities; and instead
of being discouraged by them, I have bin to
the utmost of their Power assisted in carrying
on my Designs.

I have had occasion to mention Mr. Ber-
nard's Name, which I could not possibly a-
void: But I am so far from charging him
with any thing unfair, that there is nothing
more; for I can hear of no one person who
has at any time heard him declare, That the
Man

Man at the Hospital bled again after my Ponder was applied, and had stopt the Flux of Blood. Nay, I have bin inform'd that he was altogether against the publishing of that scandalous Libel, telling the Authors, that it was in vain to write against Matter of Fact. Whether this Relation be true or not, I am not certain: But of this I am sure, he is a very great Man, and the Honor of his Profession; and I verily believe he scorns a mean Action. I heartily wish I could say the same of Mr. Cooper and others, from whom I never deserved ill.

There was scarce an Experiment I made last Year in Flanders, but there were several Officers Spectators; so that if I had not perform'd what I pretended to, I must quickly have bin detected. But I thank God my Success was such, that I have gained the good Will of most Officers of the Army, whose Words will (I suppose) go further with all considerate Men, than the scandalous, malicious Reports of some interested Surgeons.

Tho I have no immediat concern in the Medicines here recommended, yet my Reputation as much depends upon the Success or Non-success of them, as if they were still at my own disposal; and therefore I think I am obliged to acquaint the World, that the right ones are only to be had of Mr. Brown the

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Bookseller, and Mr. Raddison, the Persons deputed to dispose of them by the present Possessor.

There are several Persons about the Town, who have endeavored to imitate these Medicins, and afterwards to sell them in my Name; but whosoever shall buy any, except of the Persons before mentioned, when they find themselves frustrated in their Expectations, I hope will not blame me, having given them this fair Warning.

*From my House in Villers-
street, York Buildings.*

Novum

Novum Lumen Chirurgicum Vindicatum :

OR, A

VINDICATION of the *New Light*
of *Chirurgery*.

THere having lately stoln into the World a scandalous Libel, intitl'd, *Novum Lumen Chirurgicum Extinctum*, wherein the Author, or rather Authors (I being very well assured, that it was compos'd by a Club or Cabal of Surgeons) pretend to ridicule notorious and known Matter of Fact; and he or they pretending to detect Imposture, and to vindicate the Cause of Truth, I leave it to the impartial Judgment of any rational, sober Person, whether the Author or Authors had any reason to conceal their Names. I confess there are the two initial Letters of a Person's Name prefix'd to the Title Page; which if they answer to the Person I have som reason to suspect, had his Name bin written at length, his Life and Conversation are so very scandalous (he having last Year bin cashier'd the Regiment to which he belong'd for his scandalous way of Living, as I have bin credibly inform'd by som of the Officers of the said

Regiment) that it had bin sufficient to have deter'd any one from reading more than the Title Page alone.

The Authors have taken care to send this Libel into the World at a time when I am full of business in making my Preparation for *Flanders*, and just upon the point of going, and therefore not capable of writing so full an Answer as otherwise I would have don, and which may be expected at the end of the Campaign; and also when the Officers of the Army, who would have bin my Compurgators, are gon out of Town.

Mr. *Hall*, Surgeon to the Honorable Col. *Fitz-Patrick's* Regiment of Fusileers, who had a considerable hand in writing this Piece, brings in the Major and two Captains of the said Regiment to justify a most notorious Untruth; of which, when it shall com to their knowledg, I suppose he will have sufficient cause to repent.

As for what they say concerning the Dogs wounded before the Right Hon. the Lord *Cutts*, and the Soldier wounded upon *Tower-Hill*; if I had time, I could sufficiently make appear the Truth of every tittle I said in my Preface on that Subject; and whoever will give himself the trouble of going to Mr. *Sterkey* Surgeon upon little *Tower-Hill*, will be satisfy'd that the Man's Case was most deplorable, and quite contrary to what they relate.

They

They say I have deserv'd ill of most Surgeons; which is no otherwise true, than it to be civil, and shew respect in the highest degree, be to deserve ill. For I defy any one of that Fraternity to say, I ever denied them to shew what Experiments they desired, and to let them see my Patients dress'd on all occasions.

And since Mr. *Cooper* is by them trump'd up in relation to the Experiments made at St. *Bartholomew's* Hospital, I shall represent that whole Business to the World, and leave it to any impartial Person to judg whether I was fairly dealt with, or not.

Having made som Experiments before Mr. *Cooper*, &c. first upon a Dog, making an Aperture in his *Abdomen*, then taking out one of his Small Guts, and wounding it, of which he was in 3 or 4 Days well; then cutting off one of his hinder Legs as close as possibly we could to his Body, and immediatly stopping the Flux of Blood without any hard Bandage, to the great satisfaction of all the Bystanders: I was desired by one of the Master-Surgeons of the Hospital to try my Medicins upon two Persons, who were to have the one a Leg, and the other an Arm cut off, which I readily granted. The Day before these Operations were to be performed, I receiv'd a Letter from the said Master-Surgeon, requesting me to com alone, and to bring no one with me, that a Croud might be avoided, and his Brethren not displeas'd, (which I leave to any one to

judg whether it did not look as if there was som Design, as the Sequel will demonstrate.) Accordingly I went to the Hospital, having no one with me but my Boy of about 14 Years of Age. But (to my great surprize) when I came there, I found at least twenty of their Fraternity. However, knowing the Justice of my Cause, I staid to perform the Business about which I came. I confess my Pouder was two or three times applied before the Fluxes of Blood were stopt, but the irregular application of it by one of themselves was the occasion of it: And after the Fluxes were stopt, there was no other than mere retentive Bandage used, which is more than what any of them can pretend to with their most celebrated Medicins. After our Patients were drest up, and laid to Bed, we went all to the Tavern, where every one seem'd to express great Satisfaction in what had bin don. The next Morning, being at *Tom's Coffee-house* in *St. Martins-lane* with one *Mr. Clark*, I met with a certain Physician who told me that all was undon, for that one of the People had bled atresh; and if *Mr. Bernard* had not bin at hand to have taken off mine, and applied his own Medicins, he had bled to Death. The Truth of which I had no reason to believe, having sent one the Night before, and another that Morning, to make strict enquiry how they did, who brought me word they were both very well, but mentioned nothing of any

*

such

such Accident: However, that I might be satisfied exactly in the truth of the Report, I immediately went to the said Hospital, taking Mr. *Clark* with me. In our way we met Mr. *Blackjone*, Apothecary to the Hospital, who told me the same Story the Physician had. When we came to the Bed where the Man lay, whom they said had bled again; before I was capable of speaking to him, he rose up in his Bed, and prayed most heartily for me, telling me he believed no man, that ever had an Arm cut off, was so well as he: on which I ask'd him, whether he had not bled again after I left him; he reaching out his Stump to me, did solemnly protest, that those very Dressings were the same that were put on in my presence, and that they had not in the least bin touch'd from the time I saw him. I likewise ask'd him how he had bin for Pain; to which he replied, That for 4 or 5 hours after the Amputation, he had som Pains occasioned by an Inflammation just above the Stump; but that he slept well all Night, and was then perfectly at ease. We afterwards went up to the Boy, who told us the same the Man had don, saying he was perfectly at ease, and had slept well all Night. Som other Surgeons having said the same thing in relation to the Man's bleeding, I desired Mr. *Colbatch* a Stationer in *Cornhil*, and Mr. *Fisber* a Surgeon in *Aldersgate-street*, to go to the Hospital, who being Strangers, the People would relate the whole Truth to them;

but instead of either of 'em owning they had bled, they declar'd they were infinitely oblig'd to the Person who made the new Experiment upon them, for that they were well to admiration. These Operations were perform'd (to the best of my remembrance) on a Tuesday; and the Friday following I was desir'd to be at the same place again, to perform the Operation upon another Person: but finding this ill Usage, I sent Mr. *Baker*, a Surgeon in *Suffolk-street*, who was wont to make my Experiments for me, with som other Friends, to be as Witnesses, and desir'd by Letter, that Mr. *Baker* might make the Application of my Medicins; but there being about six Witnesses of what might be don, they refused to let Mr. *Baker* do it, and defer'd it to another time. I likewise in the same Letter requested I might have notice given me, when the two before me ti'ned should be opened, that I might be present to see how the Stumps looked, which no body but will own was fair: But to be short, I was put off from time to time, and never admitted to see 'em at all. Now, if what I have said on this Subject argues not a Combination, I know not what dos; and for the truth of all, when I am at leisure, I will have it sufficiently attested before a Magistrate; nay the Man and Boy (tho reported to be dead) will both assist in confirming the truth of this Relation.

As for the Case of poor Capt. *Rogers*, I know nothing of it, but was told by one Capt. of Sir *James Lesley's* Regiment, at *Man's* Coffee-house, before Mr. *Baker* and others, that Capt. *Rogers* being open'd after he was dead, his Heart was found to be pierc'd. Whether he saw this himself, or heard it related by another, I am not certain; but he declar'd, on his certain knowledg my 7th Experiment was true to a tittle, it being made on a Soldier of the Regiment to which he belonged.

As for Mr. *Dun*, I know no more than this, that he being in a Public Coffee-house, where there were at least twelve People, complain'd of two or three Wounds he had receiv'd by a Cock's Spur, and that there had bin something applied by another Surgeon; his Hand was much swel'd and inflam'd, and he in great Pain, and fear of som further ill Consequence: so he requested me to apply my external Medicin, which I did, and gave him som of the Tincture in Ale: in about a quarter of an Hour he declar'd before all the Company, that his Pain was altogether abated. On the morrow he came again, and desired me to make a fresh Dressing, which, finding his Hand like to be well, I refus'd, telling him one Dressing was sufficient. Now he being unaccustom'd to such sort of Methods, thought I had slighted him; and therupon applied himself to Mr. *Johnson*, who every body

body will allow, advised him to take off my Dressings, and make use of his; so what became of him after, I know not.

My time will not permit me at present to make Remarks upon the whole, for which however I shall take a convenient Season: And the World may expect my full Vindication; for it is the Cause of Truth for which I contend, and therefore am not ashamed to fix my Name to it. I confess (to use the Words of the Famous Mr. Lock) *the Imputation of Novelty is a terrible Charge among those who judge of Mens Heads, as they do of their Perukes, by the fashion, and can allow none to be right but the receiv'd Doctrins. Truth scarce ever carried it by Vote any where at its first appearance: New Opinions are always suspected, and usually oppos'd, without any other reason, but because they are not already common: But Truth, like Gold, is not the less so, for being newly brought out of the Mine. 'Tis Trial and Examination must give it Price, and not any antic Fashion: And tho it be not yet current by the public Stamp, yet it may for all that be as old as Nature, and is certainly not the less genuin.*

I did expect my Hypothesis would have bin overthrown, and a better erected in its place, for which I should have thank'd 'em; but instead of that, I find they have neither subverted mine, nor set up a new one of their own, but have stood at a distance and bark'd at me, shewing their Teeth, but either durst not or
could

could not com near enough to bite me in that place where I lay open to them. For as in building a House, so in laying down a Hypothesis, no Man can be certain, that he who coms after, cannot erect a better Fabric.

But for my Experiments, relating them as Matter of Fact, I am obliged to stand by them; and I defy all their united Force in the least to overthrow them.

To the number of my Experiments, I shall add two or three made in *England*.

Experiment I.

A Servant belonging to Mr. *Norris*, a Member of Parliament for *Liverpool* in *Lancashire*, driving a Cart, by accident fell down before the Wheel, which running over his Head, divided the Scalp from off all the hinder part of it; and, as Mr. *Norris* said, the Scull was altogether as bare as if scrap'd with a Razor, for the breadth of 3 or 4 Inches; his lower Lip (by a Splinter, or som such thing) was divided the length of an Inch or more. The Man was presently brought into Mr. *Norris's* House, who says, he was the most miserable Spectacle he ever saw; but having som of my Medicins by him, he gave his Maid Directions how to use them. She made a Solution of my Pouder in Water, and with it wash'd the Scalp and Scull to free them from

from Dirt and Sand that were lodg'd upon them; then she laid the divided Scalp on its proper place, and bound it up; then stich'd up the Lip, and made an Application. Mr. *Norris* has several times publicly declared in the *Grecian* Coffee-house in *Essex-Buildings*, that in 4 days both the Man's Head and Lip were perfectly well. He likewise said, that the Flux of Blood was so great, that he believes the Man could not have lived, whilst they sent 3 Miles for a Surgeon, unless my Medicins had bin applied. He says the Curiosity of the thing was such, and the Cure so speedy, that it drew a great many Surgeons of the Country therabouts to see the Man, and to be inform'd exactly of the Wounds, and the manner of the Cure; who all declared, they did not believe there had bin such a thing in Nature, and that if they had bin sent for, they could not have told what to have don. If Mr. *Norris* be gon out of Town, there are many Gentlemen who frequent the *Grecian* Coffee-house, that have heard him relate this thing, and can testify to it. I must beg Mr. *Norris*'s pardon for using his Name, without first asking leave; but since I was oblig'd to it in vindicating Truth, I hope it will be the more easily excused.

Experiment

Experiment II.

Perform'd by Mr. Baker at my Order, which compar'd with the 13th Experiment in my *Novum Lumen* (I suppose) confirms the truth of what I there say.

ON the 8th of March in the evening, I was sent for to one Roger, a Corporal in the Company of Capt. *Armstrong*, in the Regiment of Col. *Tiffany*. Mr. M. a Surgeon in *Bloomsbury* was then with him, who had dress'd him from the time the Wound had bin receiv'd, which was about 11 Days before, it being given with a large Bagonet Sword. It enter'd about the middle of the Leg, between both *Focils*, glancing on the *Tibia*, and so pass'd on, and went almost thro: For the Point of the Sword made a sort of Tumor in the Calf; it wounded the Artery, but that lying very deep, the Flux of Blood was not violent. He dress'd it that time, and so on for about 5 Days, it bleeding now and then, but not much; in which time the Wound was much enlarg'd; for at first he could not have put in above 4 or 5 Dossils, but then 20 perhaps or more, as both Mr. *Armstrong* and all the Family told me. On the fifth day it bled with that Impetuosity, that it frighted the whole Family:

ly : He stopt, or rather pent in the Flood with good store of Dossils and tite Bandage. It continued bleeding thus at times for many days ; in which time (as the Family told me) he lost about 12 or 14 Pints of Blood, even so much, that he look'd like a perfect *Skeleton* ; his Hands were shrivel'd, and as yellow as a Hawk's Foot. But on the 11th day after the Wound was inflicted, he bled again with the greatest Violence imaginable, which was the reason I was sent for. When I came, Mr. M. asked me whether I thought I could stop the Flux of Blood. I answered, I hope I can : For he had declared before, that nothing but Amputation could save his Life. He then open'd the Wound, pulling out most of his Dressings ; the Wound was so large, that 4 or 5 Fingers would easily have gon into it. The Dressings were not all pul'd away with Mr. M's *Forceps*, but the Blood rose in a most violent manner : I can liken it to nothing but to a Hole dug in the Ground (of about two Foot Diameter) over a Water pipe, in which, if you bore a large Hole, after the Ditch is full to the Brims, and runs over, the Water boils up in the middle somewhat high ; just so did the Blood. I put my Forefinger into the Wound, could feel both Bones very plain (but not the bottom of the Wound) with the violent Pulsation of the Artery ; I really believe the Artery was almost, if not totally divided. The Leg was swell'd to the highest de-

degree, the Blood being extravasated, and filling up the *Interstices* of the Muscles (having bin so often, both by too tite Bandage and Dossils, pent in as it were by main force, till the greater force overpowered, and made its way thro all) so that besides the often Bleeding, nothing less than a Mortification was to be fear'd. But having made my Application ready, I injected som of the Solution of the Pouder into the Wound, but it was wash'd away by the Impetuosity of the Flux before it could arrive to the wounded Artery : However, with soft Pledgets dipt in the Solution, I drest it up for that time, and the Flux seem'd to be stopt ; yet it bled somewhat that Night, but with no great violence, and soon stopt again. It did so twice or thrice, so that I was satisfied, unless I could empty the Wound of the Blood, and com to apply the Medicin to the Artery it self (the Case being quite different from what it had bin, had the Wound bin a fresh one, the Parts being all perfectly rotten, as will appear by the Sequel) I had little hopes of staying the Flux ; on which I made use of the *Turnicat*, compressing the Vessels in the Ham, which retarded the impetuous Course of the Blood ; so I emptied the Wound as much as I could, and applied the Solution with a Pledget to the very Artery, and filled the rest with soft Tow, using no Compress, only retentive Bandage. He had little or no Pain from the first time these
Medi-

Medicins were applied, except a little tensive pulsfic Pain before the Flux was totally stopr. After this Application, not one Drop of Blood appeared, nor did it ever bleed afterwards, tho I drest him not in 5 or 6 Days; but in the mean time the Swelling abated, and from the Wound was discharged a quantity of coagulated, corrupted Blood. I continued dressing him with the same Solution only 4 or 5 times, in which time he was remov'd from his Masters House in *Southampton-street, Bloomsbury*, to a Nurse's near *Soho-Square*. The Day after his Removal I drest him, and with the Cloth applied over the Wound there came away a large Core made up of the contused rotten Fibers, coagulated Blood, and som Dossils which Mr. M. had left in the Wound; this was about 3 weeks after I first saw it. The Wound within look'd very ruddy and well, but the side of the *Tibia* or Shinbone (by which the *Musculus Anticus* lies) was bare, without any *Periostium*, about two Fingers in length. There was an extraordinary Cavity after the Core was discharged, and much Matter of a very ill smell, which obliged me to drest him oftner than usual; this Matter was the extravasated Blood, pent up long between the Muscles, which in this time had form'd for it self som Chambers. Yet in three days the contain'd Matter was all com away, the Leg fallen to its wonted Bigness, so that you might press every Part without any pain. All this while

while I never put in a Pledget, only squeez'd in the Solution, and spread the Pledget over, covering it with a clean Linen Rag, and the former retentive Bandage. During which time I used nothing but the said Solution to the discovered Bone, which were it a Caustic, what pretty work would it have made? Afterwards I dress'd him not above once in 5, 6 or 7 Days; he daily recover'd Strength, so that he rose, and by degrees walk'd with a Stick, the great Cavity being very fast, full of Flesh, the Bone hid; and by the 20th of *April* he was quite well. But this is remarkable, that in the beginning of the Cure by me, he took every day the Tincture in White-Wine or Claret, a Quart or three Pints a day, yet never was in the least feverish, tho at the same time he had no Stool for 11 Days, but always slept well, and gain'd Strength.

I mention nothing here to derogate from the former Surgeon, who every one will allow deserves well in sending for Assistance when he was put to a Nonplus.

ROBERT BAKER.

F

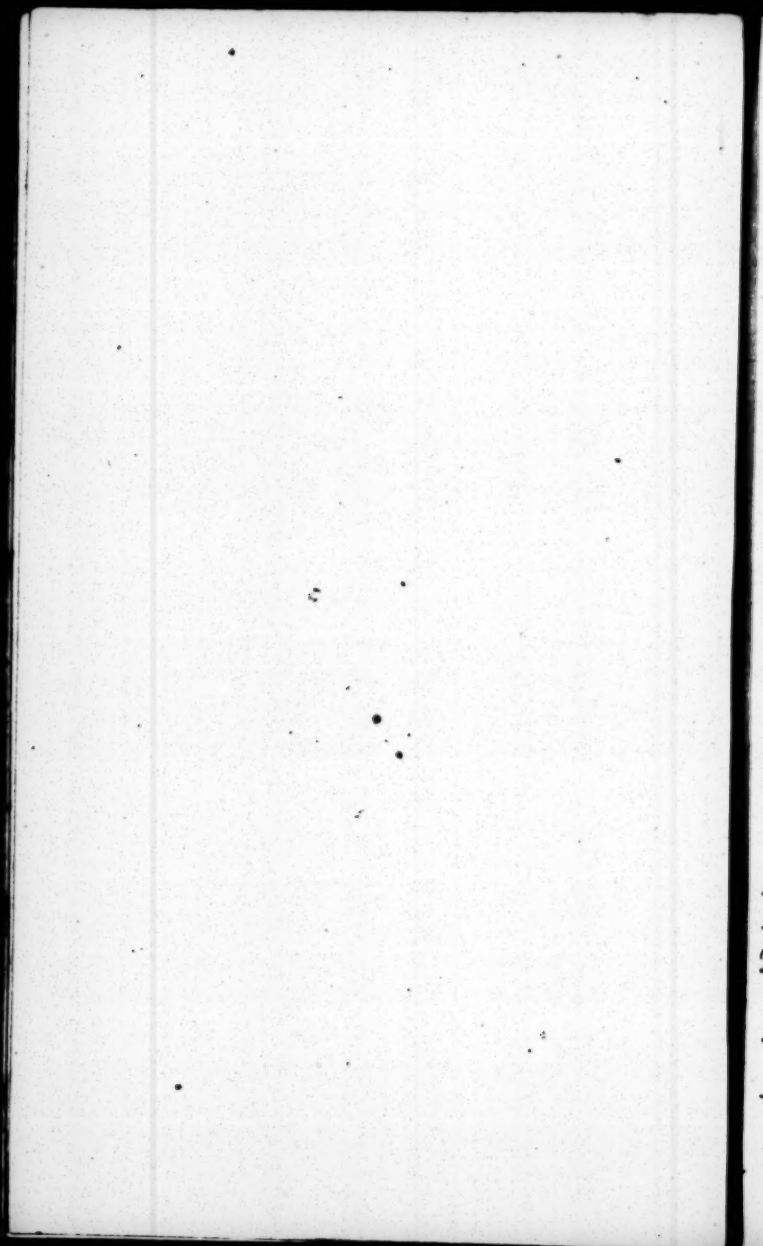
Experiment

Experiment III.

J *January 14, 1694, David Hunter, Waiter at the Roebuck Tavern in Great Suffolk-street, in a Scuffle receiv'd a large Wound quite cross the Carpus or Wrist, in which the Artery was wounded, and two of the Tendons of the Flexores Digitorum, or Muscles which move the Fingers, quite divided. Their Extremities were seen by all By-standers. Within an hour after the Wound was given, I was sent for; it had bled much: but what with Napkins kept close on, together with the coagulated Blood, the great Flux was in some measure check'd. When I came in, I found a Dutch Physician there, who tho I propos'd to stitch up the Wound, would by no means have it don; so I dress'd it only with the Medicins commonly used by us Surgeons, and bound it up: But at Midnight I was alarm'd, that he was bleeding to Death. I made all the haste I could to him; when I came, I found him fainting, and having great Convulsions. I found two Chamber-pots of Blood he had lost, before I could com to him, besides what was lost on the Ground, Sheets, &c. I presently put my Thum on the Artery, which beat and bled with that Violence, that it almost threw it off; and tho I made several Applications of the best common Restringtons,*

I could not in the least stop the Flux ; whereupon I sent for som of Dr. *Colbatch's* Pouder I had at my House, having forgot to take it with me. When it came, having no Water by me, I mix'd it with the White of an Eg, and with a Pledget of Lint applied it to the bleeding Artery, and another the whole length of the Wound, using only moderat Bandage just enough to keep on the Applications. In a moment the Flux of Blood was intirely stopt, and he slept well all Night ; but the next Day he was a little in pain ; so I took off the Roller, and just lifted up one of the Pledgets, from under which came away about half a Spoonful of extravasated Blood, which had bin pent up by the glutinous Quality of the White of the Eg. After the discharge of which he was presently at ease. I open'd it not again till 4 days after, at which time the same Dutch Physician, and two English Surgeons my Friends were by ; when to the great Amazement of us all, the Artery was quite hid, the Extremities of the divided Tendons not to be seen, and the whole Wound incarned, so that only Cicatrization was wanting. In 15 days he was well, and had the use of his Hand as well as ever in his Life ; and the Pouder was but twice applied.

ROBERT BAKER.



A
Phyfico-Medical
E S S A Y
CONCERNING
ALKALY and ACID,

S O F A R
As they relate to the Cause or Cure of
DISTEMPERS.

W H E R I N
Is endeavored to be prov'd, that *Acids* are not
(as is generally and erroneously suppos'd)
the Cause of all or most Distempers, but
that *Alkalies* are.

W I T H
An Account of som Distempers, and the Me-
dicins, with their Preparations, proper to
be us'd in the Cure of them.

A S A L S O
A Short Digression concerning *Specific Remedies*.

By J O H N C O L B A T C H, a *Member*
of the *College of Physicians*.

The Third Edition with som Additions.

L O N D O N,
Printed by J. D. for D. Brown, 1698.



To the Right Honorable
 Sir HENRY BELLASIS,
 Lieutenant-General of His
 Majesty's Forces.

Honored Sir,

Dedications are now so much in fashion, that a Book which appears without one, is scarce look'd upon; People thinking the Author, who omits what is so generally practis'd, is altogether destitute of a Friend capable of protecting and countenancing him; for which reason only, let the merit of the Book be never so great, few will give themselves the trouble of reading more than the Title-page. To prevent which, and thankfully to acknowledg the manifold Favors you have generously confer'd upon me, I have presum'd to prefix your Name to this Essay. I can't flatter my self so far as to think any thing in it worthy to

entertain a Person of your parts : But since it comes from one fill'd with a sense of Gratitude, I have reason to hope it may meet a kind Acceptance ; well knowing that small things have sometimes a Value set upon them, especially when made the Offerings of Respect, Esteem, and Thankfulness. It would be too great an Honor to me to declare how readily you have appear'd to serve me when I stood most in need of your Assistance : For which I can't better express my Gratitude, than by a Silence full of Admiration ; and let me say never so much, I should fall short of my Duty. This Piece is properly Yours, it being under your Umbrage I was inabled to write it. And if, out of your wonted Generosity, you'll be pleased to cast a favorable Aspect upon it, it will afford the greatest Satisfaction to,

Honored S I R,

*Your most oblig'd
and obedient Servant,*

JOHN COLBATCH,

The PREFACE.

IT may be much wonder'd, that I should in the least presume to meddle with this Subject, which has already bin handled by so many Great Men. But when it shall be considered, in how different a manner I have treated upon it from what has bin hitherto don, I question not, but by the generality of Mankind I shall be very easily excused: And tho there may be many imperfections in it, yet when my Design (which is to undeceive people in a matter, on which depends the Health and Welfare of all) shall be well weigh'd, I doubt not but by the candidly Ingenuous it will be well approved; tho I expect to meet with a great number of Carpers, especially amon^g those, who by long custom, and for want of due Consideration, have embraced a contrary Opinion.

It is scarce possible for a Man to converse with Persons that are ill, let the Distemper be what it will, especially such as have any smattering in Physic, which most now a days have, but they presently tell you, their Blood is so very acid, that unless the Acidity can be corrected, it is impossible for 'em to be well: And accordingly they fly to Alkalious Medicins, as Powder of Pearl, Coral, Crabs eyes, or somthing of that nature: and if they send for a Physician, which few do, especially in Chronical Cases, till they have first used a vast Farrago of Alkalious Medicins, and be
chances

chances to take the same Method with themselves, they presently cry out, We have already taken such vast quantities of the foresaid Medicins, that unless you can think of more generous and efficacious Alkalies, the Acids complain'd of will not be mortified. This has put men to great shifts, either to find out new, or to disguise the old ones: and after all, the Patients Expectation has bin frustrated, their Distempers not being to be cured by such Medicins; but on the contrary either exasperated, or so confirmed, that they will scarce admit of a Cure at all, especially if the Distemper be Chronical.

I must confess, I was formerly a Stickler for Alkalies (being carried away by the common Vogue of Mankind) and seeing the insufficiency of common ones, did put my self to great expence, besides a vast deal of trouble, to volatilize Salt of Tartar, &c. till at last I was fully satisfied, by daily observation, that Alkalies, tho never so exalted, would do me very little, if any service at all in the cure of most Distempers.

There are som particular Preparations of Steel and Antimony, of som of which I have given an account; which using as Alkalies, as they are generally believ'd to be, did me great service. But since I have well examined 'em, instead of Alkalies, I find 'em to be most noble Acids, and the Distempers cur'd by 'em did not (as I formerly supposed) proceed from an abundance of Acid Particles in the Blood or Juices.

ees; but on the contrary from Alkalious ones, as I suppose most Distempers do, and as I have endeavored to make appear by many Observations.

I expect many will cry out, as som have already don, That this Man was bred an Apothecary; and shall he pretend to be a Reformer in Physic and Surgery?

To which I answer, That I own my self to have bin an Apothecary, and bred up under a Man (tho otherwise very honest and just) that was not the greatest Master in his Business. Taking notice of his Imperfections, I applied my self for four Tears of my time to diligent Study, in order to attain those things I was sensible he could not teach me. And after I had well considered, and in som measure become a Master in Pharmacy, which is the Foundation on which the Practice of Physic is built, I was induced to look into the Body of Physic it self; and tho I don't pretend to absolute Mastership, yet I shall endeavor, and think my self obliged in Duty both to God and Man, to improve my small Talent to the best advantage I can, let Carpers say what they will.

The greatest part of my time I lived in Worcester; and tho I kept an Apothecaries Shop, yet my Dependence was wholly on my own Practice, the Success I had in which is sufficiently known in that Country. And for a Character, I desire no other than the generality of those People will give me, of whom I know no one that can or will speak amiss of me for any thing, but my coming
away

away from them, and leaving such flourishing, thriving Business as scarce any of my Age ever had before; for which many of them have blam'd me; but the Reasons of my leaving that Place are best known to my self; nay, are now in some measure evident to the World.

And since I have bin speaking of my being bred an Apothecary, I shall enlarge a little on that Subject, giving a short account of the necessary Qualifications of one of that Profession; and then leave every body to judg whether a Man so qualified has not made a large step towards being a good Physician.

First, An Apothecary must be well acquainted with the Vegetable Kingdom, not only to know the faces of Plants, but their Natures, and manner of Operation on Human Bodies: Can he otherwise tell how to handle them, so as to make his Compositions as they ought to be? And indeed every Physician supposes the Apothecary so qualified, when he prescribes to his Shop; for in his Bill he seldom directs the Method of making his Medicins, but only orders such and such Medicins, knowing, or at least supposing him (for every Physician ought to be well satisfied in the Abilities of his Apothecary) to be before hand skillfully prepar'd. For let a Physician prescribe like an Angel, if the Apothecary thro Ignorance be destitute of good and well prepared Medicins, both Physician and Patient are frustrated in their Expectations, which I am afraid too frequently happens.

Secondly,

Secondly, He must well understand the Nature and Operation of Minerals and Metals, which is not to be learnt in the Dispensatory, nor any other way to be attain'd, but by much reading, and hard labor in the Fire.

Thirdly, He must understand the Nature of Animal Bodies also, among which is comprehended that of Man, of whose Body there is scarce a Part, but is sometime or other to be used as Medicin: yet before it is used, the Apothecary's Skill is for the most part required for its Preparation, in order to which he ought first very well to understand its Nature.

With all the foresaid Qualifications, and many more, are multitudes of Apothecaries in England endow'd. And to the Honor of the Apothecaries of London be it spoken, I have generally found the meanest Shops in this eminent City better frasted with good Medicins, than the most eminent in all Holland, or the rest of the Low-Countries.

I might add much more on behalf of that noble Profession; which tho I have left off, yet still I have a high value for it, and think an honest and skilful Apothecary as serviceable in the Commonwealth, and to deserve as much Incongruement as any man whatever.

The Famous Etmuller was not asham'd to own, he serv'd 8 Years to an Apothecary; for all which he was afterwards one of the eminentest Physicians of Europe: And for ought I know, the loss of him at the Age he died, from whom so much might

might rationally have bin expected, deserves as much to be lamented, especially by Physicians, as the loss of any one privat Man.

And here let me lament the great misfortune under which the Commonwealth of Physic at this time labors, viz. the great Breach between Physicians and Apothecaries, or at least a great number of both Professions; which, unless som Method be found amicably to compose it, and to establish the antient Friendship and Correspondence between the two Professions, will be such an Opportunity to the Quacks, that in time they will destroy both Professions, and have liberty to injure Mankind without controul.

I believe there are more strowling Quacks in this Nation than in all Europe besides, who have nothing to recommend them but their Impudence: and the Common People who are not Judges, are easily imposed on by them; yea, 'tis daily seen, that on the Ruin of Families many of them raise considerable Fortunes, and make a Figure in the World.

Now the only Method I can propose to suppress these Swarms of Caterpillars, is a hearty Union between the College of Physicians, and the Company of Apothecaries; for want of which Mankind daily suffers detriment.

I have not given a full account of those Distempers I treat of, but only som short hints so far as was necessary to clear my way.

In the following Essay there are Remarks on the Practice of som particular Men only, my Design

sign not being in the least to reflect on that Noble Society, or any Member of them, I mean the College of Physicians, whom I own to be the Glory of our Nation, and of the whole World, and for whom I have the greatest Reverence and Respect imaginable. And since I had the Honor to be admitted into their number, and thereby of having more intimate converse with them, I see more cause to esteem and respect them every day.

I pretend not to be the sole Author, or first Broacher of this Doctrin of Acids in the cure of Distempers, it having long since bin the Opinion of som of the most happy Practitioners in the World, and is at this time imbraced by as great Men as perhaps our Age affords.

I wrote this Essay at a place (during the first three Weeks of the Siege of the Castle of Namur, when we had not many wounded Men brought to our Field-Hospital) where I had not the opportunity of consulting Books, nor the benefit of coming at my own Papers, wherein I had set down my Observations on this Subject: For want of which I have only us'd such as occur'd to Memory, whereby they are not so numerous nor exact as I design'd them: But however, for som reasons I am willing to venture them abroad as they are, they not being in the least designed to entertain the Learned, but to undeceive the Multitude.

I don't pretend to be so great, nor to deserve so well of Mankind as Helmont, Paracelsus, &c. yet they going out of the common Paths, and acting on different Principles from the rest of Mankind,

kind, did not want such as maligned them, and used allopprobrious Language against them. Therefore why should I, who have not in the least arrived to those great Perfections that they had, take it amiss to be abused and evil spoken of?

[I must confess I have differed from the fore-mentioned great Men in this, viz. that I have deliver'd my Mind in so clear a manner, that all might understand what I write; whereas they endeavored to conceal many great things even from their dearest Friends and Relations, whereby the World is now deprived of som Medicins that might have bin of great advantage to the diseased part of Mankind.]

Authority has in great measure blinded som Mens Understandings, and seal'd up their Eyes: There being still som that pay too submissive a Deference to antient Opinions, tho never so contrary to Reason, and will not open their Eyes to see the Truth. There are still Men who write against most known Truths, as the Gravity and Elastic force of the Air, and other such things. This Doctrin of Acids, and that I formerly wrote concerning the Cure of Wounds, are likewise of the number of those that are unfortunate, merely for not being born old, and with a venerable Beard.

When a Book (says the famous Malbranch) is first to appear in the World, we know not whom to consult to know its Destiny: The Stars preside not over its Nativity; their Influences have no operation on it, and the most confident Astrologers

logers dare not foretel the divers Risks of Fortune it must run. Truth not being of this World, Celestial Bodies have no power over it; and wheras it is of a spiritual Nature, the several Positions or Combinations of Matter can contribute nothing either to its Establishment or Ruin. Besides, Mens Judgments are so different in respect of the same things, that we can never more hazardously and imprudently play the Prophet, than in presaging the happy or unfortunate Success of a Book. So that he who ventures to be an Author, lays himself at the Reader's Mercy, to make him what he pleases. But of all Authors, those who encounter with Prejudices, ought infallibly to reckon upon their Condemnation. Their Works sit too uneasy upon most mens Minds; and if they escape the Passions of their Enemies (which I have not) they are obliged to the almighty force of Truth for their protection.

However, time will do every man Justice; and Truth, which at first appeared a chimerical and ridiculous Phantasm, by degrees grows sensible and manifest. Men open their Eyes, and contemplate it; they discover its Charms, and fall in love with it.

The Books that encounter with Prejudices, leading to Truths thro unbeaten Paths, require a longer time than others to obtain the Reputation their Authors expect. And I find it too true, that all those Writers who combat with Prejudices, are much mistaken, if they think thereby to recommend themselves to the Favor and Esteem of others.

Possibly a few will speak honorably of them when dead. But while living, they must expect ~~to~~ be neglected (I speak experimentally) by most people, and despised, reviled, and persecuted even by such as go for the wisest and most moderate men. There is nothing but Truth contain'd in my *Novum Lumen Chirurgicum*; and I thought I should have bin in a condition this Summer to have made it evidently appear. But instead of that, I have bin abused and delivered up into the hands of my Enemies, to do with me as they pleas'd.

My *Novum Lumen* is built on a pair of Medicins, which as yet I think not fit to make public; but here lies my misfortune common to all those who make new Discoveries: A great many believe the truth of what I have said, and that my Medicins are capable of performing what I have promised. But among those who are so ingenuous as to believe matter of Fact, many say, this Man was not the Author; others, that they have the same Medicins; and som, that they imparted them to me. As for these Gentlemen, I can easily excuse them, well knowing it is the nature of most Men not to allow any Person the honor of his own Discoveries, thinking thereby their own Glory eclipsed. But there are another sort, whose Interest will not let them embrace the Truth, and for that reason do what in them lies to keep others from so doing. And the greatest part of Mankind not being Judges in my Cause any further than their Eyes direct them, it is altogether impossible there should be many Spectators, by which
means

means I am evil spoken of by many, because an interested Party has told them I have pretended to what I can't perform.

I expect the Mouths of my Enemies will be opened wide against me; but I have already born so much, that I can contentedly suffer the greatest Indignities that may be offer'd: My great Satisfaction being that I have Peace in my own Mind, having proposed nothing but what tended to the good of Mankind; and well knowing, that if my Medicins are faithfully and skilfully used, they are capable of performing much more than I have promised for them; but the best Medicins unskilfully used, or by prejudiced Persons, with a design they should not succeed, may be brought into disgrace.

The following Essay I humbly offer to the candid Reader's Consideration, not doubting it will meet with a favorable reception. I must needs say, I more value the good Word and Opinion of one candidly ingenuous, than all that can be said by ten thousand clamorous. ill natur'd Persons. I have endeavored to act so, as to deserve no Man's ill Word; but if I am abused, and my Undertakings misrepresented without just cause, I shall never break my Heart about it, being assur'd the Justice and Integrity of my Undertakings will one time or other appear.

There being a great Call for this little Tract, and the former Impressions being quite sold off, at the request of my Bookseller I have suffered this third Edition to com abroad: The Additions I

have made are not many, tho I could have added much more; but the Bookseller designing to print this and som other Tracts together, if I should have added much, it would have swelled to a larger Extent than is designed.

Were I satisfied that any one thing I have advanced either in this, or my other Tracts, did in the least tend to the prejudice of Mankind, the first thing I went about should be to recant, and beg pardon of the World: but instead of that, I am daily more satisfied and confirmed in the truth of my Hypothesis, both by the Success attending my own Practice, and the concurrent Testimony of Multitudes of Practitioners from most parts of England, who have bin so generous as to return me Thanks for making them sensible of their Errors, and setting them on a right Bottom, whereby they are capable of acting with som Certainty, which before they could not do: For whose sake, tho I meet with never so much Opposition from others, I will spare no pains to make things yet more clear.

From my House in Villers-
street, York Buildings.

A

Phyfico-Medical

E S S A Y, &c.

C H A P. I.

Of the Small Pox.

THE first thing I shall begin with, is the Disuse of *Alkalies* in the *Small-Pox*, that fatal Distemper to three Kingdoms, and even all *Europe*; in that God was pleased thereby to deprive us of a Princess, whose Worth was such, that a sufficient Value can never be set upon it, nor her Loss be enough lamented.

It is common both with Nurses and the generality of Practitioners, as soon as they perceive the least Symptoms of this Distemper, to give *Gascoin's*, *Countess of Kent's*, *Lapis de Goa*, or some other *Testaceous* Powder, which are known *Alkalies*. The one Party pretend thereby to drive the Malignity from the Heart; the other to correct the Acidity which they conjecture (beyond which they can't go) to be in the Blood.

In the subsequent Discourse, I shall endeavor to shew on what false Suppositions both Parties go.

For the first sort it will not be worth while to spend much time, because every one will readily grant, they generally act on wrong and mistaken Notions. And as for any Malignity lodg'd in the Heart more than in any other part, 'tis altogether impossible, by reason the Blood moves ten times at least faster thro the Heart than any other part, the Lungs excepted: And the Cavities being large, no *Stagnation* is to be feared, and consequently no danger. If there be any fear of the Malignity's settling any where, it must be in those parts where the Vessels are very small, and the Blood moves but slowly, which must be near the extreme Parts.

For the second sort, who give the same Medicins, but with quite different Intentions; I shall endeavor to prove, that their Suppositions are altogether as groundless as the former. They give their *Alkalious* Medicins to correct the *Acidity* they suppose to be in the Blood, which is, as they pretend, the occasion of all the ill Symptoms that attend the Small-Pox. Now I could never hear of any one, that by analyzing the Blood of Persons in the Small-Pox, could ever find the least Footsteps of Acidity in it; tho, on the contrary, it appears after many Trials, that the Blood of such abounds more with Alkalious Particles than that

of sound People: and consequently, the giving Alkalies in this case must be at least superfluous, if not highly pernicious, as I have frequently observ'd, and shall instance in som Particulars.

The cause of the Small-Pox, common with most other Fevers and acute Distempers, I suppose to be from a quantity of such Particles being som way or other admitted into the Blood, which being of a quite different Texture from the Blood, and so not capable of mixing with it, cause a hurry and disorder there; which is what I * elsewhere observe

to be the occasion of both continued * Nov. Lum. Chir. and Symtomatic Fevers. Now it is

well known a Fever always precedes the Eruption of the Pustles in the Small-Pox: And when the Pustles are well com out, that is, when the heterogeneous Particles, or such as are of a different Texture from those of the Blood, are thrown out to the Surface of the Body, the Fever ceases.

Now to assist Nature in throwing those heterogeneous Particles out of the Blood to the extreme Parts, which they pretend to be mightily hinder'd by a great quantity of Acids in the Blood, they give repeated and large quantities of Testaceous Alkalious Pouders, and other *Diaphoretics*; which indeed seldom fail of answering their Intentions, in throwing out large quantities of Pustles, even more than Nature is able to supply or bring to maturity;

and if the chances to cope with 'em, 'tis the only occasion of spoiling so many Angelic Faces, as we daily observe. But the spoiling of Faces is not all, for besides the throwing out so great a quantity of Pustles by breaking the Globules of the Blood, when brought to the *Cutaneous* Glands, instead of those Glands separating the excrementitious *Serum*, which in a state of Health is all or most part of it carried off by Sweat, or insensible Transpiration, but at this time to supply the Pustles till brought to maturity; I say, by breaking the Globules of the Blood when in its confused state, *Serum* and all together, the excrementitious *Serum* only, according to the Rules of Nature, ought to be separated, those Glands being so many Strainers fitted to receive into them the *Serum* only, and not the least drop of Blood when in its natural State, and its Globules unbroken. I can liken the separation of the *Serum* from the Blood, by the mediation of the cutaneous Glands, to nothing better than a Mixture of Oil and Water, made by continued agitation, when that compound Mixture seems to be one intire white Liquor; tho with good Eyes or a good Glass, the Oil may be seen floating in the Water in small Globules, as the Blood doth in the *Serum*, as I elsewhere * observe:

* *Nov. Lum.*

Yet this Mixture of Oil and Water, let it be don never so exactly, if pour'd into a Funnel lined with brown Paper, wet beforehand, the Pores will be so disposed, as to let

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all

all the Water run thro, tho not the least Particle of the Oil; yet if there be som Alkalious Salts boil'd with this Mixture of Oil and Water, the Globules of the Oil will be so broken, as to pass readily with the Water thro the brown Paper, which before it would not in the least. In like manner, the Globules of the Blood being broken by the means of Alkalious Medicins, together with too great a quantity of Alkalious Particles being before admitted into, or rather detained in it, are thereby made capable of being received into the cutaneous Glands, which is the only occasion of those purple Spots on the surface of the Skin, not only in the Small-Pox, but other Fevers; which Spots seldom or never fail of being the certain tokens of future Death.

But this is not all, for by the said breaking the Globules of the Blood by Alkalious Medicins, these small broken Globules getting into the little Meanders of the Brain, hinder the Motion of the Animal Spirits thro the Nerves, and so cause Deliriums, and all those fatal Disorders of the Brain too frequently seen.

Likewise the Blood, which is not capable of being contained in its proper Channels, is the occasion of violent Bleeding at the Nose, bloody Urin, &c. which are none of the best Symtoms, but what too often happen by the said means.

Besides breaking the Globules of the Blood, and causing the foresaid ill Symtoms, with many

many others I don't think fit to enumerat; by their Diaphoretic Quality there is so great a waste made of the Serum of the Blood, that there is not a sufficient quantity left to supply and bring to maturity those many Pustles (even more than Nature designed) that these Medicins alone had thrown out: So that about the ninth, eleventh, or thirteenth day, for want of a sufficient quantity of Serum to supply them, the Pustles fall, and the acrid corrosive Matter being absorbed into the Blood, causes secondary Fevers, which oftentimes prove very dangerous. I might expatiate much more, but I design brevity.

It may be said I have gon far enough in condemning the ordinary Practice as to the use of Alkalies and Diaphoretics, not having substituted a better and safer Method and Medicins in their room: but not too fast, that follows in its proper place.

The Small-Pox is a Distemper that requires the giving of as few Medicins as any Distemper whatever, unless in som extraordinary Cases; but yet I think it most unreasonable, that People (as is the common practice) should be left to the sole management of old Women and Nurles; which alone I verily believe has destroy'd more than the Sword it self. And tho but a few Medicins, as I said before, are generally necessary, yet the Ey of a careful, skilful Physician, and that from the beginning, is as convenient as in any Distemper
what-

whatever, that seeing Nature's Operations, he may also observe the fit time to give the Medicins requisit. I confess I have heard som complain that such a Physician has had so many Fees, and never wrote one Bill for them. For such People, let me tell them, they complain without cause: for in many cases, especially in this, the Physician deserves his Fees better for not writing at all, than otherwise.

I own my self a profess Chymist, and in many things, tho not all, a Disciple of *Helmont*, and know nothing so delightful to me, as Chymical Operations: Yet in this case, nor indeed scarce in any acute Distemper, do I judg Chymical Medicins, at least the elaborate ones, to be absolutely necessary, tho many of them may do well, and are somtimes to be used: But I know no reason to fly to elaborat Preparations, when Nature has provided Medicins ready to our hands. Acids skilfully and timely given, I have seen, not only by my own, but by several Great Mens Practice, to be the only safe, effectual, and seldom or never erring Medicins in this Distemper; and why should we fly to Acids chymically prepared, when, as I said before, Nature has provided Oranges, Lemons, Citrons, Limes, and a great many more not necessary to mention, which for the most part answer our intentions, if skilfully given by an experienced hand? And as I hope I have shewn sufficient

ent Reasons to dissuade from the use of *Alkalies* and *Diaphoretics*, from the many direful effects that daily attend their use; so I hope to give as cogent ones to inforce the use of *Acids*, from the laudable, good effects I have seen from them: for in at least five hundred Patients that I have had of all Qualities to do with in this Distemper, in *Worcester* and *London*, to the Year 1695, when called in at the beginning of the Distemper, I know not that I have had one that has died, or bin disfigur'd; nay som that were brought into very ill circumstances by the use of Testaceous, Alkalious Pouders and Diaphoretics, I have retriev'd from the jaws of impending Death by fit and proper Acids.

[And in the Small-Pox that has raged during this present Year 98, I have not lost above three Patients, and the occasion of their Deaths, as I have all the reason in the World to believe, proceeded from Irregularities committed by their Friends before I was called in, *viz.* their giving them sweating Medicins upon their first being taken ill, which I earnestly caution all People against, as a thing that frequently proves fatal, as it also dos during the whole Course of the Distemper. But further, why should Diaphoretics be given at first to hasten the eruption of the Pustles, when it is evident to all cautious, observing Practitioners, that the only dangerous Small Pox is that where the Pustles appear within a day or two after

after the Patient is taken ill; whereas those that are four, five or six days before they appear, are generally free from all ill Symptoms? Therefore if we would imitate Nature in her regular operations, we should rather moderate, than rashly push forward the eruption of the Pustles.]

It may be wonder'd at that I make a difference between *Testaceous* Pouders and *Diaphoretics*, when the Testaceous, especially the compound ones, as *Gascoin's*, *Countess of Kent's*, *Lapis de Goa*, &c. are accounted Diaphoretics, and indeed are so: but my reason is, because for the most part, besides the said Alkalious Pouders, other more forcible Diaphoretics are also given.

Having in short given som hints concerning the cause of the Small-Pox, I need not again repeat them, but shall immediatly proceed to the method I take in the cure of it, which being according to Nature's dictates, is short and easy: For Nature in performing her Operations makes short and easy cuts; it being in the cure of Diseases, as in finding out and giving an account of the *Phenomena* of Nature by Philosophical Disquisitions, they that go upon the fewest Principles, generally discover most of her Secrets, and are capable of giving the best and most rational account of them; whereas they that are clog'd with multiplicity of Principles, and wander in tedious and uncouth Paths, thinking thereby to get admission
into

into Nature's Cabinet, after they have spent much time, and taken a great deal of pains, at last sit down as wise as when they began, and not one jot wiser.

First, when I com to a Patient who has the Symtoms of the Small-Pox, which are so well known even to Nurses, that I need not spend any time about them: In the first place, if there be any manifest signs of the Stomach's being oppress'd and clog'd with viscous Matter, as generally it is, I give a gentle, easy Vomit, futable to the age and constitution of the Patient; and after that has don operating, som *Syrupus à Meconio*, or any other proper Opiat in due proportion. Afterwards, to allay the disorder in the Blood, occasioned by the intro-mission of Heterogeneous Particles, which Nature endeavors to throw out; and to confirm the Texture of the Blood, so as to inable it to rid it self of its Enemy, I give large quantities of any of the following Juleps.

℞ *Succi Aurantior. Unc. sex,*
Aq. Hordei lib. duas,
Sacchari Albi q. s. ad gratam saporem.
M. f. Julap. Vel

℞ *Succi Limon. Unc. quatuor,*
Aq. Hordei ℥b duas.
Cinnamomi Fortis Unc. semis,
Syr. E Rubo Idæo Unc. tres.
M. f. Julap. Vel

℞ *Aq. font.* ℥ *unam semis,*
Vini Rub. ℥ *semis,*
Syr. E Rubo Ideo ℥ *iii.*
M. f. Julap. Vel

℞ *Aq. Cinnamomi Hord.* ℥ *ii.*
Succi Limon. Unc. quatuor,
Syrup. de Succo Lujula Unc. tres.
M. f. Julap.

Of any of these Juleps I let my Patients drink as oft and as freely as they will; drinking likewise small Beer with Juice of Oranges in it, in as large quantities as they please: But during the whole course of the Distemper, all sorts of Flesh ought to be avoided.

To poor people, instead of the said Juleps, and to save charges, I order large quantities of small Beer, acidulated with Oil of Vitriol, or else Vinegar, or Verjuice Posset-drink, to be drank frequently, and in large quantities.

But if in the beginning, or afterwards, the Brain be much disturbed, and the Patient delirious, for the most part I find it absolutely necessary to let Blood, and that in a good quantity; and then to use more powerful Acids, giving the following Juleps in large quantities; which presently calm the violent Motion and Agitation of the Blood and Spirits, and set all to rights in a small time.

- ℞ *Aq. Cinnamomi* Hord. ℥ unam,
Syrup. de Rubo Ideo Unc. unam sem.
Sp. Vitrioli Volat. Drach. sem.
M. f. Julap. Vel
- ℞ *Aq. Cinnamomi* Hord. ℥ unam,
Syr. de Rubo Ideo Unc. unam. sem.
Gas Sulphuris q. s. ad acidum Saporem.
M. f. Julap. Vel
- ℞ *Aq. Hordei* ℥ duas,
Epidem. Unc. duas,
Syr. Lujule Unc. tres;
Sp. Nitri, vel Vitrioli Dul. scrupulos duos.
M. f. Julap. Vel
- ℞ *Flor. Rosarum Rub.* Drac. sex,
Aq. Fontan. Bullientis ℥ duas,
stent in infusione in Vase vitreo clauso per
quadrantem hora, postea affunde Ol. Vi-
trioli vel Sulphuris per Campan. Scrupulos
duos: macerantur per alterum quadrantem
hora, & coletur, colaturæ clara adde
Sacchari albissimi q. s. ad gratum sapo-
rem.

In all the Liquor they drink, I order a few drops of *Spiritus Nitri*, or *Oleum Vitrioli dul.*

If I find my Patient's Spirits languid and low, I give 3 or 4 Spoonfuls of the following Cordial at due intervals, especially towards
the

the end of the Distemper, when Cordials are most wanted.

℞ *Aq. Mirabilis,*
Epidem. ana Unc. tres.
Spirit. Citri Unc. sem.
Aq. Melissæ Unc. octo.
Syr. Garrioph. Unc. unam sem.
M. f. Julap. Cardiacum.

[Where there are any Symtoms of what is commonly called *Malignity*, I give either of the following Medicins during the whole course of the Distemper.

℞ *Rad. Angelicæ Hispan. ʒ i;*
Fol. Rutæ,
Scordii ana M. ʒ.
Vini albi,
Aceti Acerrimi, ana Unc. sex.

Infunde clausè & calidè in Vase vitreo vel terreo per horas tres, & coletur, colaturæ cap. Cochlearia sex quartâ vel sextâ quâq; horâ. Vel

℞ *Aq. Theriacalis Unc. quatuor vel sex,*
Aq. Rutæ Unc. sex,
Syr. Lujula Unc. unam.

M. f. mixtura in quatuor partes æquales distrib. quarum cap. unam quartâ vel sextâ quâq; horâ.

They may also take 10 or 15 drops of my Elixir of *Vitriol* three or four times a day in any convenient Vehicle. H If

If they are subject to be loose, I give the quantity of a Nutmeg of Conserve of *Sloes*, a little aromatized with Oil of Cinnamon, once in two or three hours, ordering them to drink afterwards a Draught of Tincture of *Roses*.

By this Method I have brought my Patients thro the Distemper, without scarce so much as any uneasiness, or being confin'd to their Beds, or the least fear of a secondary Fever, which frequently proves most fatal.

After the Pustles are quite gon, I take care to purge 'em well five or six times with gentle and easy Purges, after each Purge giving a *Hypnotic*. After I have don Purging, for some time I give corroborating, strengthening Medicins, to confirm the Texture of the Blood and Juices, and bring them to their natural State, wherby I prevent ill accidents, that sometimes succeed the Small-Pox.

I have not given a full History of this Distemper, that being contrary to my design, but endeavored to deter People from the use of such Methods and Medicins as have prov'd fatal to many, and to advance a better and safer Method in their room; yet I would not have people wholly rely on the Method here set down, but always have a Physician by to obviate any unusual Symtoms that may appear contrary to what generally dos; and where Life lies at stake, people can't be too cautious: But if the good old Women and Nurses, in spite of all
that

that can be said, will be still tampering, I must needs say, if my Method be exactly follow'd, I verily believe there would not one in ten die that have formerly by the use of *Alkalies* and *Diaphoretics*.

As I have before exploded the use of *Alkalies*, and given my Reasons for it; so I shall now give som Reasons for the Method I take with the great use of *Acids* in this case.

I judg the cause of the Small-Pox, as I before observ'd, to be from an intromission of Heterogeneous, or Particles of a different Nature and Texture from the Blood, into it; wherby it is put into a great hurry and disorder, in order to throw off its enemy; and that the place, by which Nature designs the discharge of these Particles, is the cutaneous Glands. Now the Inconveniencies I observed to attend the use of *Alkalies*, were the throwing out of more Pustles than Nature intended, the destroying of the Globules of the Blood, and a waste of too great a quantity of Serum. I before forgot to mention one dismal effect of *Alkalies* and *Diaphoretics*, viz. that by destroying or breaking the Globules of the Blood, instead of regular Pustles being thrown out to the Surface of the Skin, the divided broken Globules are together with the morbidic matter thrown out, as in the — and so causes an *Erisipelas* or St. *Anthony's* Fire, which seldom or never fails of proving fatal.

Now I defy any one to say he ever observed such Symtoms as these, when Acids were us'd from the beginning, which are of that nature as to confirm the Texture of the Blood, which is that red substance wherein is contain'd the

** Nov. Lum.
Chir.*

Byolycnium * or Lamp of Life; and by so doing Nature is capable of throwing out the extraneous Particles in a sutable way, without the inconveniences that attend the other Method: For the Texture of the Blood being confirm'd, and moving regularly and naturally in its proper Channels, the morbidic Particles are only thrown out, and such a quantity of Serum left as is sufficient to supply the Pustles, and bring them to maturity without any fear of their flatning, or the acrid Matter being again absorb'd into the Blood, and causing secondary Fevers. Besides, the Globules of the Blood being kept together unbroken, there is no danger of their being extravasated, and causing the fatal *Purple Spots*; nor of being thrown out together with the morbidic Matter, and so causing an *Erisipelas* or *St. Anthony's Fire*; neither are *Hemorrhagies*, at the Nose, bloody Water, &c. in the least to be feared; nor, by being admitted into the small Meanders of the Brain, to cause Deliriums, and those other Symtoms that attend it.

I might expatiate on continued Fevers, and other acute Distempers; but that would be to be guilty of Tautology: For I assign but one
general

general Cause of 'em, tho I own the extraneous Particles causing 'em may be somewhat various; and according to the different size of the extraneous Particles, the parts affected may be different; as in the Small-Pox, the size of the Particles are such as to fit them to be thrown out by the cutaneous Glands to the surface of the Skin; in other Fevers they are thrown out, sometimes one way, sometimes another, according to their size. For instance, sometimes they are thrown out by critical Sweating, sometimes by Urin, sometimes by the Glands of the Mouth in spitting, and so on, according to the different disposition of the Particles causing the Distemper, which are fitted to be discharg'd thro the Pores of different Parts; and whatever way we find Nature inclin'd to act, we must assist her in it, but not spur her on, unless she be too sluggish, nor on any account whatever hinder or thwart her in her Operations.

In most continued Fevers we have found Alkalies as pernicious as in the Small-Pox, and Acids as advantageous; of which I shall give an instance or two.

After I came from *Flanders* in 1694, having discours'd with a certain Physician about a Fever that raged that Summer in *London*, and of which many died; he told me, when he found his Patients under such and such Circumstances, he as much gave them up for dead, as if a Dagger were run thro their Hearts. I

ask'd him what those Symtoms were, that render'd his Patients circumstances to be so dangerous? He replied, When he found them delirious, and had Spasms and Convulsions of the Nerves. I inquir'd of him, what Medicins he gave? He told me, a Composition of *Gascoin's Pouder*, *Virginian Snake-Root*, &c. which he solely relied on, and is the same, or of the like nature with what is generally given. I ask'd him, whether he had never found his Medicin serviceable to him? He ingenuously confest, when his Patients were under those Circumstances, it never did him any service. I again ask'd him, why he did not vary his Method? His Reply was, his Medicin was a most noble *Alkaly* and *Alexipharmic*, and what was generally us'd, and therefore he did not think fit to vary from an establish'd Method.

A few days after I was called in to a Gentlewoman exactly under the same Circumstances before related; she was delirious to the highest degree, had violent Spasms and Convulsions of the Nerves, and all other Symtoms of a Malignant Fever. I despair'd not of her Life; and by the plentiful use of proper Acids, all Symtoms soon vanish'd, and in a week she was fit to go abroad.

Besides, I could instance in a hundred Cases of the same nature, but that I design brevity.

I must own other Distempers may be complicated with the Small-Pox, and other continued Fevers and acute Distempers; or from a different Constitution of the Air, &c. unusual Symptoms may appear; in which cases a general Method must not be relied on, but recourse must be had to proper Specifics.

I have so little reason to recant what I have said concerning the Cure of the Small-Pox and Fevers by Acids, that every day's experience confirms me in the truth of it: and were it not that I design a particular Tract of Fevers, I could expatiate here largely concerning the reasonableness of my Proceedings.

C H A P. II.

Of the Scurvy.

I Now com to treat of the disuse of *Alkalies* in the *Scurvy*, that reigning Distemper, from which few are altogether free; and is by most accounted incurable, or at least for the most part proves so.

But here I expect the cry of all Mankind against me; What! say there is no Acidity in the Blood in the *Scurvy*? What but an Acidity in the Blood causes the breaking out of Scabs, Pimples, Blotches. &c. on the Skin? What but a Sharpness in the Blood occasions those

dring Pains, and a thousand other Symtoms of which people laboring under this Distemper complain?

My Friends, have patience, and I will presently make it appear, that those Symtoms are not occasion'd by *Acids*, but by *Acrid*, *Lixivious*, *Alkalious* Particles; which I doubt not to evince by plain matter of fact.

First of all, by a Chymical *Analysis* it appears that the Blood of *Scorbutic* Persons has a far greater quantity of Volatile Alkalious Particles, than that of sound Persons; together with som quantity more or less of a Lixivious, fixt Alkaly, of which, for as much as ever I could find, the Blood of sound Persons is altogether destitute.

And by the way let me add this: If Physicians would chymically analyze the Blood of Persons in all Distempers, and make nice Observations of the different substances obtained from it, the cause of Distempers would be clearly known, and by consequence the cure of them much more certain than now it is. But that I may return to my business.

Another considerable Argument, besides that beforementioned, to prove the Scurvy has its rise from Alkalious Substances in the Blood, and not from Acids, is this which follows.

I have bin frequently told by som Seamen and Surgeons, that have had long Voyages at Sea, especially towards *China* and the *Indies*,
 * that

that of a hundred Men in a Ship, not two of them but have bin almost eaten up with the Scurvy, their Skin squalid and full of Blotches, their Gums eaten away, and their Teeth ready to drop out, Pains and Aches all over their Bodies, &c. and yet on their landing at *Cadiz*, or therabouts, where is plenty of Oranges and Lemons, and eating large quantities of them, in one fortnight's time at farthest scarce one has fail'd of being perfectly cur'd. This is not a Relation of one or two Persons only, but what is generally agreed upon, and allowed by all to be Truth.

Tho these moderat Acids plentifully used may have such effects in that hot Country, yet I have not observ'd that in our cold Climat they have always, always I say, the same effect: because in slight cases they generally do well; yet in more stubborn ones we are forc'd to have recourse to more powerful penetrating ones.

As for Alkalies, I don't believe ever any one was cur'd by 'em of this Distemper; tho I have known som that have taken a vast *Farrago* of Testaceous Pouders, &c. without any good effect, which afterwards has bin don in a little time with a small quantity of proper Acids.

Before I conclude, I shall insert a Preparation of *Antimony*, which I have found of extraordinary use in the most inveterat Scurvies.

Tinctura

Tinctura Antimonii.

℞ *Flor. Albor. Antimonii unc. octo, Spiritus Tartari volatilis ℔ duas, ponantur in Phiolâ vitreâ forti cum Collo oblongo; simul misceantur, & optimè agitantur; postea digerantur leni Calore Balnei per dies quatuordecem, tunc decanta Spiritum rubro colore tinctum a Floribus. Spiritus verò tinctus, e Cucurbitâ vitreâ per Alembicum abstrahendus a Tincturâ, usq; ad medietatem cum igne lenissimo; Tinctura remanens, reservetur in Phiolâ cum obturatorio vitreo optimè clausâ. Spiritus, distillatione abstractus, potest iterum usurpari in eodem negotio.*

Spiritus Tartari volatilis Præparatio.

℞ *Tartari Rhenani purissimi ℔ viginti, colloca in Cucurbitâ ferreâ, cui adaptatur Alembicum aut ferreum aut cupreum; collo Alembici potest applicari Serpens stanneus aut cupreus, collocatus in Dolio aquâ frigidâ repleto: Functura ubivis locorum ritè recteq; sint munita cum optimo Luto; quando Lutum optimè siccat, tunc distilla, primò igne lento, postea fortissimo, & continuatur donec nihil ampliùs elici potest. Spiritus prædictus, ab oleo fatido liberatus, potest misceri*
cum

cum libris tribus Capitis Mortui ad albedinem calcinati, & ad medietatem usque, in Balneo Mariae abstrahere è Cucurbitâ vitreâ per alembicum, quorum juncturae sint ritè munitae, & suum retinebit calcinatus Tartarus Fetorem una cum Phlegmate, stillante Spiritus parte solummodo puriore & subtiliore; qui denique cum Æ duabus Capitis Mortui calcinati miscendus, & per Alembicum recentem rectificandus. Atque hic est Spiritus ille Tartari, cum quo prædicta extrahitur Tinctura, & quidem non solum hæc, sed etiam cunctorum Metallorum aliorum, id quod nullus præstare potest alius.

Of the aforesaid Tincture I use to give about four, six, eight or ten Drops, according to the age and strength of my Patients, Morning and Evening, in about half a pint of strong Infusion or Decoction of *Juniper Berries*, without any precedent Purgation; this Medicin performing that Office where there is occasion: it answers every thing generally said of a true *Panacea*, somtimes working by Vomit, somtimes by Stool, and somtimes by Urin, but mostly by a gentle *Diaphoresis* or Sweating. I once knew it to cause a Salivation, without any of the ill Symtoms that usually attend it, when rais'd by Mercurial Medicins. Whoever has a mind to see more of this Tincture, may read *Glauber Op. Mineral. Par. Prim.* from whom

whom I had it, tho I vary something from him. I have found it of great use, not only in the Scurvy, but many other Chronical Distempers, as Rheumatisms, Sciaticas, Dropsies, &c. and by some few Observations I have made, I believe it may do great things even in the Gout it self.

That I may excite People to the use of this noble Medicin, I shall presume to transcribe what *Glauber* declares of it, who I believe has said no more than it deserves.

‘ This noble Tincture of *Antimony* (says he) above all other Medicins, does wonderfully evacuate all vitious Humors, and insensibly purify the impure Blood; it opens all Obstructions of the Liver, Spleen, Kidneys, and all the other *Viscera* of a human Body, drawing from them all Malignity, leaving no Impurities there. And because it purifies the Blood, it cures the Leprosy, the French Pox, the Scurvy, and all other Diseases proceeding from the Impurity of the Blood. By its penetrative and attenuating Virtue it resolves all Tartarous Humors, and evacuates those that generat the Gout, and the Stone in the Kidneys and Bladder. But it dissolves not *Tartar* perfectly coagulated, but only mitigates the pain proceeding from it, and hinders its increase; to wit, attracting and evacuating from all the *Viscera* both radically and fundamentally that which is not perfectly indurated and coagulated. It
‘ takes

‘ takes away all Fevers, and other Distempers
‘ proceeding from a superfluity of Humors.
‘ It sweetly evacuates Water contain’d between
‘ the Skin both by Urin and Stool. In short,
‘ it strengthens and purges the principal Parts,
‘ and preserves them from all preternatural Acci-
‘ dents. It is the best Preservative in time
‘ of the Plague, and all other contagious Dis-
‘ tempers ; and to those that are taken with
‘ any of them, a most excellent curative Re-
‘ medy, driving out and evacuating the Ma-
‘ lignity. In a few words, it is a universal,
‘ and even the best of all Medicins, being most
‘ profitable both for Young and Old, as it is al-
‘ so the most safe ; but yet with caution to be
‘ administer’d, by reason of the most potent
‘ Qualities with which it is endow’d, it being
‘ as it were a greater Fire extinguishing or
‘ swallowing up a lesser. A better Medicin
‘ than this certainly cannot be desir’d, which
‘ is got out of a mean Subject in a short time,
‘ and with very little charge. I ingenuously
‘ confess I never saw the like, and I doubt not
‘ but it is one of the best of Medicins. Thus
far *Glauber* himself, with a great deal more
worth any Man’s reading : *Vid. Op. Mineral.*
part. 1. p. 35, 36, &c.

[I confess since I have left off the preparing
my own Medicins, I could never get this Tin-
cture so made as in any measure to answer my
intentions : nay since I have by large experi-
ence found the extraordinary use of *Cremor Tar-*
tar,

tar, and highly acidulated *Tartarum Vitriolatum*, in these cases I have not bin over anxious about it, it being a Medicin of difficult preparation, and the others easily to be procured at all times, and in all places.]

In *Scorbutes* attended with Pains, I have frequently known the following Tincture of admirable use, as I have also don in som sort of Gouts, in my Tract of which Distemper I have made mention of it,

℞ *Gum. Guaiaci pul. unc. duas,*
Succi Liquiritie Hispan. in ten. taleolas
incis. unc. quatuor.
Sp. Vini rect. ℥ unam.

Infunde clause & calidè per duos dies, postea decantetur Tinct. clara.

The Dose of this Tincture is a Spoonful Morning and Evening, either in a Glas of warm Ale, or the following Infusion.

℞ *Rad. Eringii unc. unam*
Lig. Sassafras Dracm. sex
Vini Rhenani ℥ unam
Aq. Font. ℥ unam sem.

Infunde clause & calidè per horas quatuor, & coletur, colatura reservetur ad usum.

In Scorbutical Cases I have also found *Cremor Tartar* and *Tartarum Vitriolatum*, taken for a considerable time, to be of extraordinary

ry use. And I verily believe if *Cremor Tartar* alone was given in large quantities to our Seamen who go long Voyages, it would in a great measure, if not altogether, prevent the many Inconveniencies that attend them by their Scorbatic Habits, which frequently so afflict them, that they are made altogether incapable of doing their Business. Nay, I believe it would also prevent *Calentures*, and other fatal Distempers that destroy so many of our Men, either in long *East* or *West-India* Voyages; and by its cheapness it seems rather adapted for the Necessities of the Poor, than of the Rich. But tho it be cheap, yet if we consider but the Nobleness of its Extract, that alone is sufficient to set a Value upon it: For what is it but the essential Salt of the most noble of all vegetable Productions, *viz.* the Juice of the Grape, that which rejoices the Heart of Man, and makes the Peasant equal with his Lord, and the afflicted Man forget his Misery? As for myself I had rather be without a great part of the *Materia Medica*, than *Cremor Tartar*; for considering it as a simple Remedy, it is of the most universal extent of any thing I know. Without doubt it is the finest Purge in Nature given in a due quantity, it performing that Office without any griping or uneasiness; and in a less quantity is a most noble Alterative, it strengthening the Stomach, and helping Digestion. It allays all violent and unnatural Fermentations of the Blood; it is a fine Diuretic.

retic. To be short, I question whether there be any one natural Production now known or in use, that in all respects is so adapted to do Mankind service as this Medicin is.

I confess it has for many Ages bin in use; but how? it has only bin trifled with, being given by Grains and Scruples, whereas it ought to be by Drams, and even Ounces on occasion: and unless it were *Angelus Sala*, I remember none I ever met with that has prescribed it in large quantities besides my self; and I confess I was first excited to it by what *Angelus Sala* said concerning the cure of himself, when he labor'd under a most dreadful *Colic*, which had like to have cost him his Life, from which he was presently deliver'd by taking (as I remember) six Drams of *Cremor Tartar*. The like Effect I have frequently seen of it in the most violent Colics imaginable, either given in a large quantity at once, or else two drams at a time, repeated every two, three or four hours, according to the urgency of the Case.

Helmont somewhere says, that every Poison carries along with it its own Antidote; and tho Wine drank in moderat quantities be one of the most noble Cordials in Nature, yet the drinking of too large quantities causes as many Inconveniencies as any one thing: nay I believe there are more Chronical Diseases occasion'd by drinking of Wine and Vinous Liquors to excess, than from any thing else.

Now

Now I believe there is no one thing so adapted to prevent the Inconveniences that attend hard Drinking, as *Cremor Tartar* is, which is nothing but the Product of Wine it self. Nay, it not only prevents the Inconveniences of hard Drinking, but for the most part carries off the Diseases already form'd, that are caused by it.

[I have within this two or three years given som hundred Weights of *Cremor Tartar* both in Chronic and acute Cases, and don't remember that I ever observed any inconvenience by it. And for a Purge it is the most delightful in the World; none of the purging Salts, about which there is now so much Noise made, being in the least comparable to it. Nay, I am sure that after Ages will thank me for recommending so cheap and useful a Remedy to the World.]

It would take up too much to say all that might be of this noble Medicin, and I must beg the Reader's Pardon for this Digression in saying so much as I have.

Before I conclude, I shall mention one Objection more against my Opinion, made to me by several, *viz.* That a more than ordinary Saltness is to be perceiv'd in the Blood of Scorbatic Persons, and this Saltness they take to be an Acidity. But if they would enquire narrowly into the matter, instead of finding it to be an Acid Saltness, it will appear to be a Lixivious, Alkalious one.

C H A P. III.

Of the Gout.

I Shall here make only som few Observations concerning the Gout, it being Coufin German to that of the Scurvy : and by what I have seen, I am fully convinced, it is not from Acids, as is generally said, that this troublesom Distemper is occasioned.

I have observ'd considerable large *Nodes*, in which are somtimes contain'd a hard chalky Substance, and of which I have seen large quantities extracted, which by many Experiments I have found to be as much an Alkaly as either *Crabs Eyes*, *Coral*, *Pearls*, &c. which I suppose no man will deny.

Now it being granted, that the matter contained in the aforesaid *Nodes* is an Alkaly, how is it possible for this Distemper to proceed from Acids, when in those very parts where the Distemper most violently rages, there are produced such large quantities of an Alkalious Substance? For if the Distemper proceeds from Acids, as 'tis generally agreed, the Patient need not clog his Stomach with Alkalies, as is usually practis'd, there being a Remedy already placed in the part affected : And I verily believe, the only reason why this
Dis-

Distemper has bin accounted among the *Opprobria Medicorum*, is from their mistaken Notions concerning it.

But if Men will still persist to assert that this Distemper proceeds from Acids, and at the same time own the chalky Substance beforemention'd, which is only the Morbific Matter indurated, to be an Alkaly, they must tacitly believe the Doctrine of Transmutation, tho openly they are asham'd to own it, and will ridicule those that do.

But this is not all; for suppose the Acid Matter causing this Distemper to be transmuted into a chalky, alkalious Substance, the Distemper must never more pretend to come in or near the part where this Substance is lodg'd, it being plac'd as a Sentinel to guard it off: Nay, the Blood at times must all, or at least a great part of it, pass thro the Part or Parts where this chalky Substance is lodg'd, by which means one would think it should be sufficiently guarded against any more growing Acid; and so by consequence, when the chalky Nodes are once settled, people have no reason for the future to fear the return of their Distemper; the contrary to which many honest Gentlemen to their sorrows experience. So that a man would think these very Nodes alone were sufficient, were there no other reasons to be given, to satisfy one who is master of his Reason, that Acids are not, but Alkalies are the cause of this Distemper. And if the

Blood abounds with too many Alkalious Particles, the giving of Alkalies must be preposterous, it being to add Fuel to the Flame, which instead of quenching or extinguishing, makes it so much the greater.

It may not be amiss to take notice, that few are troubled with the Gout, but those who drink large quantities of Wine, or som other generous Liquors abounding with vinous Spirits; so that the Blood and other Juices being impregnated with the said vinous Spirits, these Spirits meet with the volatil, alkalious Salt, of which even the Blood of sound People is never destitute; wherby the vinous Spirit is coagulated, and turn'd into that substance (or somewhat like it) which *Helmont* calls his *Offa Alba*: which coagulated substance not being capable of moving with the Blood and Juices thro the small Vessels, causes Obstructions and violent Pains, and in time, by the addition of other gross, terrestrious Particles, the forementioned chalky Substance.

By the foresaid Coagulation of vinous Spirits with the volatil Alkaly of the Blood, may a very good reason be given for the Generation of the Stone in the Bladder and Kidneys: And *Mr. Boyl* tells us (being what *Helmont* had before don) that having obtain'd som Stones of a certain *Lythotomist*, he put 'em into a Retort, and expos'd 'em to a strong Fire, and found the better half consisted of volatil, alkalious Salt, like that obtainable from Human Blood, and

a considerable quantity of heavy Oil; so that it is plain the Generation of the Stone is not from Acids, but Alkalies.

From which may be infer'd, that it is not from the Acidity of Rhenish Wine that the drinking of it is pernicious to Gouty People, but from its abounding with spirituous Particles more than most other Wines.

I shall here presume to supply a few Omissions in my Tract of the *Gout*, which I doubt not will gain more and more Reputation every day, the Method there laid down being what will generally answer expectation.

I have (*pag. 79.*) given an account of a Balsam of admirable use in taking off the most violent and tormenting Pains; which after it has bin used som time, will cause little Pimples and Blisters on the Part: Now as soon as the Blisters are once rose, the use of the Balsam must be left off, which I forgot to mention, and not be repeated again, till the Blisters or Pimples disappear.

The strengthening of the Stomach, and helping Digestion, being what generally goes a great way in the Cure of Chronical Distempers; therefore to people who either labor under a Fit of the Gout, or are subject to it, I prescribe the constant use of the following Digestive Pouder, both while they labor under a Fit, and when free from it.

℞ *Crem. Tartari Dracm. sex,*
Cardamomi Cub. harum,
Galangæ ana Dracm. duas,
Sacchari rosati Unc. unam sem.

M. f. Pul. cap. quantum Mucroni Cultri contineri potest sapius in die.

Instead of the *Elixir Sulphuris*, mentioned pag. 90. I frequently give the following *Elixir Vitrioli*, tho the Intentions of both are the same.

℞ *Garriophyllor. Piperis nigri,*
ana non contus. Unc. duas.
Spirit Vini Rect. Hunam.

digerantur leni calore arena, in Vase vitreo optimè clauso per dies septem; tunc guttatim instilla Ol. Vitrioli optimè rectificati Uncias quatuor; digerantur iterum per dies septem in eâdem calore, postea decantetur Elixir clara. Dosis est a gut. 15. ad 20 vel 30.

This Elixir is a noble Stomachic, and of admirable use in other Distempers besides the Gout.

Tartarum vitriolatum and *Cremor Tartari* I much rely on in the Cure of this Distemper; but this ought to be observed, that during the Fit they must be given in such quantities as will procure the Patient three or four Stools in the 24 hours, and no more, at least after the
the

the second or third day: But if for the first two or three days they occasion more Stools, it will rather be an advantage than otherwise. Therefore that things may be exactly regulated, the Proportions I have prescrib'd must be varied according to peoples Constitutions and Strength.

When the Pain is not very severe, the Proportion of *Ol. Vitrioli* in the Balsam may be less than I have set down, viz. two Drams of *Ol. Vitrioli* to two Ounces of *Ol. Olivarum*: Let them be well mixt together in a glass Vessel, till they com to the consistence of a Balsam. With this Balsam I have two or three times seen somthing extraordinary don in *edematous* Tumors; as I have also in easing other Pains besides that of the Gout.

[It being a year since the second Edition of this Essay came abroad, I have now several Observations to add to my Tract of the Gout; but considering that is also reprinting, I shall add no more in this Place.]

C H A P. IV.

Of Rheumatisms.

THIS is another Distemper generally said to proceed from Acids in the Blood, but very falsely, as I hope fully to make appear, having had to do with multitudes under this Distemper, and thanks to God, with good success.

I shall not inquire into the original Causes of this Distemper, which are various, that being forein to my design; but immediatly proceed to the business I have undertaken.

First of all; having by the Fire analyz'd the Blood of Rheumatic Persons, I have found it to abound more with Alkalious Particles than that of sound Persons, but not the least grain of an Acid Substance in it: from which alone it may readily be infer'd, That it proceeds not from Acids, but from Alkalies.

But it may be objected, From whence proceeds that *Syziness* and *Viscosity* of the *Serum*, which is observ'd in the Blood of Rheumatic Persons, if not from Acids? For we know that Milk, which is a sort of Serum of the Blood, let it be never so fluid, by the addition of any Acid, tho very gentle, a great part of it will immediatly coagulat and turn into Curds.

To

To which I answer, That the foresaid Objection is altogether invalid; the Viscousness observ'd in the Serum of the Blood, being quite different from that of the Curds in Milk: tho there are substances contain'd in Milk, fit to make both Blood and Serum; but Milk is a much more compound Liquor than the Serum of the Blood: so the comparison being between Subjects vastly different, it is of no weight.

But suppose the comparison good; what agreement is there between Curds, and a Substance like Gelly? None at all that I know.

But if instead of curdled Milk, they had made the comparison between the inviscated Serum and Hartshorn Gelly, they had bin in the right; for indeed I know not any two Subjects more fit to be compar'd together. But then this comparison will not at all prove the Inviscation of the Serum to proceed from Acid, but from Alkalious Particles; for all who know what Hartshorn is, know the reason of its making a Gelly, is from its abounding with volatil alkalious Salts: and for the same reason it is, that Calves Feet, Izing-glass, Ivory, &c. make Gellies.

By what I have said, I hope I have freed Acids from causing the Viscousness of the Serum of the Blood in Rheumatisms; which Viscosity, if once taken off, the Distemper immediately vanishes: Yet this is not to be don by Alkalies, that ever I could see, tho I have given 'em in large quantities; but it is expeditiously

only to be don by proper Acids, such as the foremention'd Tincture of *Antimony*, &c. and *Chalybeats*.

But here People will think I am caught in a Trap, when I bring in *Chalybeats* among the number of Acids, when generally own'd by all to be Alkalies: to confirm the Truth of which, they tell you it is manifest, that Filings of Iron will make as great an Effervescency with all sorts of Acids, as any of the Alkalies I have mention'd; therefore I must be much in the wrong in reckoning *Chalybeats* among Acids.

From this difficulty I shall endeavor to extricate my self, and also to prove, That Iron or Steel, till converted into a *Vitriol*, which all will allow to be an Acid, cannot act upon the Blood or Serum to cause an alteration in it, nor so much as any way to enter into the Veins or Arteries.

It is the custom of skilful Practitioners, before they give Steel Medicins, to inquire whether their Patients are sensible of any Acidity in their Stomachs: in which part I allow Acids oftentimes to abound, and that exorbitantly. If they perceive any Acidity there, it is found necessary to give Iron or Steel, without any Preparation at all, because by means of the Acids in the Stomach it is turn'd into a *Vitriol*, and so made capable of being carried into the Blood; whereas in such cases, if it has bin before satiated by a precedent
Pre-

Preparation, it has little or no effect at all. On the other hand, if there be no sensible Acidity in the Stomach, Iron or Steel given un-prepar'd, are carried off by Stool, without the least alteration, or any part of it admitted into the Blood.

[In Hypochondriacal and Histerical Persons, who mostly complain of an Acidity in their Stomachs, I have with wonderful success given four or five Iron Bullets filed from small Rods every day just after Dinner, and have ordered the continuance of them sometimes for three or four Months; and when all other Methods have failed, this has effectually taken place.]

All or most of the Preparations of Steel I know good for any thing, are perform'd by means of Acids, which tend to the dividing their parts, and turning them into a *Vitriol*. Now according to the difference of the Acids us'd, the result is a different sort of *Vitriol*, which has different operations: But on the contrary, Alkalies do so lock up the Body of Iron, as to make it unfit to be taken as Medicin, because of its extraordinary hardness and firmness of Texture.

The Preparations of Steel I generally use is that which goes by the name of Dr. *Willis*, and is almost every where to be had; which tho' grown common, is no despicable Medicin, and is that which follows

Take

Take of filings of Steel, or rather Iron, very clean and free from dust, one Pound and half; Sal Armoniac two pound: make the Sal Armoniac into very fine Powder; then mix them well together in an iron or stone Mortar; then put the mixture into a moist Cellar, and let it stand a week: Then put it into a very large Crucible, which cover with a piece of Tile; afterwards put the Crucible into a Charcoal Fire, which increase by degrees, till the Crucible be almost red hot: after it has continued in this state about an hour, take away the Fire, and let your calcined matter cool by degrees; when cold, take it out of the Crucible, and make it into fine Powder in a glass or stone Mortar; then put it into a Bottle with a wide mouth, which stop with a glass Stopple, and keep in a warm place.

[The Method I use in making that Preparation of Steel, known by the name of Dr. Willis, is as follows.

Take clean filings of Steel one Pound, Cremor Tartar three Pound; mix them well together in an Iron Mortar; then put them into an Iron or Earthen Pot; pour upon them a Gallon of Spring Water, and over a very gentle Fire evaporate to the consistence of Hony, stirring all the time with an Iron Spatula: afterwards add another Gallon of Water, evaporate as before;

fore; then take it out, and put it upon an Iron or Tin Plate: let it stand in a warm place till it is perfectly dry; then make it into fine Powder, and keep for use.]

These two Preparations properly given, and with convenient Vehicles, I have known of great use in som Rheumatisms: and the first, when all other Medicins have prov'd ineffectual, scarce ever fail'd me in the most inveterat Obstructions of the *Menses* in Women.

Besides the foremention'd Preparations of Steel, I have frequently found *Cinnaber* of *Antimony*, or even common *Cinnaber* mixt with a due proportion of *Gum Guaiaci*, and given in large quantities, to be of great use, not only in som confirm'd Rheumatisms, but even in *Sciaticas* of long standing, by which alone I have known many cured.

I formerly believ'd *Cinnaber* of *Antimony*, and common *Cinnaber* to be Alkalies; but since I have more nicely inquir'd, I find by a peculiar management, a large quantity of an acid, sulphureous Spirit may be obtain'd from them: [And unless the *Mercury*, which is a main ingredient in the Composition, be accounted an Alkaly, there is no such thing to be found in it. But for my part, what to make of that fugitive Servant of poor Chymists, I cannot tell; and must ingenuously own, after much Mony and Time spent in inquiring into the nature of it, I know no more than what I
do

do by its effects, which are sometimes extraordinary, if manag'd with discretion.]

Before I conclude this Head, it will not be amiss to observe one thing about the Preparation of Steel beforemention'd, *viz.* that while it is kept dry, and in a Pouder, it is one of the greatest *Deoppilatives*, or openers of Obstructions imaginable: But let it be put in a Cellar, and run *per deliquium*, which it will in a few days, 50 or 60 Drops of the said Oil *per deliquium*, given twice a day in a strong Decoction of Oak Bark, I have of late found rarely to fail in stopping a seminal Flux, which all will allow has hitherto bin found as difficult as any thing whatever. Som having told me, they supposed the Stipticity to proceed from the Decoction of Oak Bark only, I purposely tried it alone: and tho I own Oak Bark to be a noble Stiptic, and to do Wonders, the Decoction being taken at the Mouth, and by way of Clyster, in common simple *Diarrheas*, and even sometimes in bloody Fluxes; yet in the foremention'd case it would do nothing at all: but adding som drops of the Oil of *Mars* to the Decoction, it soon had the desir'd effect.

Of late I have bin induc'd to use the following Method in the Cure of Rheumatisms, and in a great number of Cases it has rarely failed me; and where it has failed, I have not had the least Temptation to blame the Method or Medicins.

- ℞ *Tart. Vitriolati* Dracm. unam
Cremor. Tartari Dracm. sex
Ol. Garrioph. gut. sex
Sacchari rosati Dracm. tres

M. f. Pul. in sex Chartulas distribuend. ex quibus cap. unam quater in die in Cochlear. Syr. e Rubo Ideo, superbibendo haust. Julap. sequentis.

- ℞ *Rad. Eringii* Unc. duas
Aq. Font. ℥b duas

Infunde clausè & calidè per horas duas vel tres, & coletur; colaturæ adde Vini Rubri Gal. unc. octo
Syr. de Rubo Ideo unc. tres
Elix. Vitrioli gut. 40. M.

- ℞ *Elix. Vitrioli* Dracm. duas
cap. gut. duodecem in haust. Vini Rub. &
Aq. Font. ana p. e. horâ dimidiâ ante
prandium.

- ℞ *Sp^e Vini non Rect. unc. sex, vel octo, vel*
decem.

Ol. Vitrioli Dul. unc. unam.

M. f. Mixt. cum quâ embrocantur Partes affectæ manè & serò, superponendo Pannum laneum.

- ℞ *Cremor Tart. Dracm. sex*
Cardamomi, Cubearum,
Galangæ, ana Drac. duas
Sacchari Rosati unc. unam semis.

M. f. Pul. cap. quantum Mucroni Cultri contineri
poteſt ſepius in die. After

After the Pains are quite gon, I prescribe a Steel Course for 3 Weeks or a Month, and during that time a continuance of the *Elixir of Vitriol* before dinner, and of the *Digestive Powder*.

But in this case, as well as in the Gout, the quantity of *Cremor Tartar* and *Tartar Vitriolatum* ought to be such, as to occasion 3 or 4 Stools in 24 hours, and no more, at least after the first day or two; and therefore as peoples Strength and Constitutions vary, the quantities ought to be lessen'd or increas'd, as occasion is.

The *Oleum Vitrioli Dul.* for the *Embrocation* is as follows; that commonly sold in the Shops, which is made by Distillation, being good for little or nothing.

℞ *Ol. Vitrioli opt. rect.*

Sp. Vini Rect. ana p. e.

Cum cautelâ misceantur, & postea digerantur leni Calore arenae, in Vase vitreo optimè clauso per dies decem, & reservetur ad usum.

[To conclude, and as an addition to this Edition of my Essay, I shall make the following remarks, being the effects of farther observation.

Rheumatisms, properly so called, may be distinguish'd into *Acute* and *Chronic* ones. An *Acute Rheumatism* is as much an inflammatory Distem-

Distemper as a *Pleurisy* or a *Peripneumony*; but by reason the offending Matter is not lodged on any of the noble parts, the consequence is not so fatal. Now people being ill treated in Acute Rheumatisms, their Distemper becomes a Chronic habitual one, which perhaps hangs upon 'em for many years, with many instances of which I have of late met. Now in Acute Rheumatisms, I always or mostly use the last Method, only omit the Digestive Pouder; and sometimes instead of the Embrocation, I bathe the Parts with good *Elder Vinegar*, or Vinegar impregnated with other Aromatics; and let them drink plentifully of *Lemonade*, or other acidulated Liquors. After the Distemper is over, to confirm the Tone of the Parts, which can't fail of being debilitated by the great pains, I put them into a Steel Course for three Weeks or a Month. In Chronic ones, where the Blood is sily, I use the same Method with the digestive Pouder; and in neither of them scarce ever fail of Success. But in Chronic Rheumatisms, where the Blood is not sily, I give the foremention'd Medicins, with *Gum Guaiaci*, &c. where they want Evacuations; which, as is elsewhere observed, being given in due quantities, never fails to prove a noble Purge. But where they do not want evacuations, I altogether rely on proper *Chalybeats*, suited to the Constitution. This Subject alone deserves a particular Treatise; but I have already promised so much, that I can't

think of any such thing, till what I am about is finished, which will not be in a short time.]

C H A P. V.

Of Consumptions.

I Have little to say at present on this Subject, but that I have seen great numbers of People under this circumstance, to whom large quantities of Alkalies, all sorts of *Balsamics*, and those things called *Pectorals*, have bin given without the least advantage; tho I have seen others that have had the manifest signs of a confirm'd *Phtisis* or Consumption, who by the plentiful use of proper Acids have bin reduc'd from a state of dying to perfect Health.

My Reasons in short, according to the best Observations, for the use of Acids, and the disuse of Alkalies, are as follow.

The Globules of the Blood, by reason of too great a quantity of Acrid, Alkalious, Lixivious Particles mix'd with it, being broken, and confusely mix'd with the Serum, are together with the Serum admitted into the small Glandules of the Lungs; and not being capable to be discharg'd, cause Inflammations there, and by consequence Hectic Fevers, which always precede and accompany a *Phtisis* or Consumption. Now by the use of Alkalies
and

and Balsamics, these extravasated, broken Globules are so far from being thrown out, and the deprav'd state of the Blood from being alter'd, that it is made much worse; and by Balsamics the Pustles, occasion'd from the extravasated Globules being admitted into the small Glandules, are brought to Suppuration, the necessary consequence of which is an Ulceration; and when so tender a part as the Lungs is once ulcerated, he must shew himself an Artift indeed that can heal it.

Now proper Acids given in due time, confirm the Texture of the Blood, and reduce the Serum to a state of fluidity, whereby the Fever and Inflammation of the Lungs are taken off: and the extravasated Globules of Blood, by means of a thin Serum, assisted by its quick motion in that part when in a fluid state, are by degrees carried off, and so the Pustles disappear.

But it may be objected, How com the broken Globules of the Blood you so often mention, to be admitted with the Serum into the Glands of several parts, and yet cannot by the same reason be carried to the parts design'd with the Serum or *Lympha*, as it is stil'd, when it once coms into the Lymphatic Vessels?

To which I answer, That when they are first admitted into the Glands, I mean the broken Globules, coming just out of the extremities of the Arteries, and being then very hot, the sides of them are lax, and in some mea-

sure capable of being compress'd or squeez'd together ; but when once admitted into the Glands, the motion of the Serum from them, thro the Lymphatic Vessels, being very slow, they soon grow cool, and so more firm ; and by reason of the different figure of these broken Globules from the Pores, by which the Serum is to pass from the Glands to the Lymphatic Vessels, they are not suffer'd to go thro with the Serum, as in the foremention'd instance of Oil and Water : so that the Globules being extravasated and without motion, corrupt, from which Corruption proceed all the ill Symtoms that accrue from the broken Globules of the Blood being admitted into the Glands.

I am furnishing my self with Materials, in order to write a particular Tract concerning Consumptions ; in the Cure of which Distemper I hope to make more considerable Advances than have bin yet made, and therefore shall say no more concerning it in this place.

But to return to Acids. To confirm the truth of what I have said, besides my own Observations, I remember *Riverius*, that famous Practitioner, somewhere says, That he several times cur'd a confirm'd *Phtisis* or Consumption, by giving only large quantities of Conserve of red Roses, well acidulated with Oil of *Sulphur per Campanam*.

And now I am speaking of that Oil, let me add the account *Helmont* gives of it in his *Arbor Vita* ; which tho it has no immediat relation

tion to the Point in hand, yet may be pertinent enough, to shew the good effects of Acids in keeping the Blood in a good Texture, and by that means prolonging Life, and preserving us from Diseases. *Moses*, who perhaps understood the Mysteries of Nature as well as any Man, and was guided by an infallible Spirit, says, that in the Blood is contain'd the Life. Now the Texture of the Blood being confirm'd, and its Globules whole, must go a great way towards prolongation of Life: But on the contrary, the Texture of the Blood being spoil'd, and its Globules broken (which they are by Alkalies) must in great measure shorten Life, and occasion Diseases.

In the Year 1600, says *Helmont*, a certain Poor Man, being burden'd with many small Children, complain'd to me that he was 58 years of age, and if he should chance to die, his Children must go a begging. He ask'd of me something, wherby his Life might be preserv'd. I being a Young Man, and commiserating his Condition, consider'd that a lighted Match of Brimstone would preserve Wine from Corruption; and therefore concluded, that the Acid Oil of Sulphur did necessarily so contain this Flame of Sulphur, and all the Smell of it, that it self was nothing else, meaning the Acid Spirit or Oil, but the Fume of Sulphur it self, imbib'd by its Mercurial Salt. Last of all, I was confirm'd that the Blood was the Wine of our Lives; and that being preserv'd,

if it occasion'd not long Life, would at least in some measure lengthen it, by our being guarded from Discales, and free from Pains. Wherefore I gave him a Pot full of the distill'd Liquor, or Oil of Sulphur, and likewise taught him to distil the said Oil from kindled Brimstone. I furthermore bid him take every Meal in the first draught of Beer he drank, two drops of the said Liquor, and by no means exceed it; I being satisfied that two Drops did contain a large quantity of the Fume of Sulphur. The Man followed my Advice, and now walks about the Streets of *Bruxels*, being 1641. And, which is more than all, for the whole 40 years he never labor'd under any Distemper, tho' once by a Fall on the Ice he broke his Leg near the Knee; yet all the time he was under Cure he was free from a Fever. He continued slender and lean, and tho' in want of all necessities, liv'd to be thus old. The Name of this old Man is *John Mass*, who served in the Bed-Chamber of the Bishop of *Ypre* when Count *Egmont* and *Horn* were beheaded, and was then 25 years of age.

The Truth of this Relation need not in the least be doubted, the Man being alive and well when it was wrote. By which Instance it is plain, that Acids are not the Cause of Diseases, but Preservatives against them; and whatever is a Preservative from Distempers, by parity of reason must be of use to repel them.

A signal Instance of which I remember I have somewhere read, of a Person who suffered himself to be bit by a Viper, in order to try the good Effects of Monsieur *Charras's* Volatil Alkalious Salt of the same Animal, in preventing and taking off the Symtoms that attend the Biting of the said Creature. The Volatil Salt and other Antidotes were in large quantities given, but all in vain; for instead of allaying, the Symtoms so increased, that nothing less was to be fear'd than the loss of the poor Man's Life. To the best of my remembrance, nay I think I may be positive, it was in the Wrist where he was bitten; but for all the Volatil Salts and other Antidotes, in a little time his Arm was swel'd so big, and so high, that Amputation could do him no service; nay, all the By-standers, that were many, gave him up for dead. At last a certain Person advis'd giving large quantities of only so simple an Acid as Juice of *Citrons*; which immediately abated the Symtoms, and retriev'd him from all manner of Danger. [See more of this matter in my Account of the Cure of the Person bit by a Viper.]

We live in an inquisitive Age, wherein People have more sense than to take things on trust: The obtaining of the Blood both of healthy and distemper'd Persons, is not difficult; and I desire no greater justice, than that People would themselves try the truth of what I have said: and if after trial it be found that

the Blood of persons in any of the forementioned cases, has any Acid abounding in it, I will own my self in the wrong ; but shall never take the least notice of such scurrilous Answers as I have bin used to, nothing of that nature being in the least valid with me that is not confirm'd by well-attested Experiments.

The Conclusion.

IT is, I suppose, allowed by all that *Sea-Salt* is an Acid, and for that reason only, we who eat so much Flesh are not able to live without it. For all sorts of Flesh abounding with large quantities of volatil Alkalious Salts, if these were not in som measure lock'd up and mortified by the means of Sea-Salt, or (which is all one) what is the product of our English Brine-pits, which have their saltness from the same origin, *viz.* Currents of Water passing thro great Rocks of Salt ; which late Discoveries have made appear to be both in *England*, and many other parts of the World ; as for instance, one in *Cheshire*, whose Vein is 20 Yards thick, and may be traced for many Miles together ; which alone is sufficient to impregnat almost an Ocean of Waters : I say, were it not that the Volatil Alkaly contain'd in the Meat we eat was in som measure lockt up

or mortified by means of the foresaid Salt, the eating of quantities of Meat would certainly destroy us. [The constant use of Bread also is of no small advantage to us, it being a Substance greatly abounding with Acid Particles, as by the analyzing of it will easily appear.]

There is reason to believe, That before the Flood People did not eat Flesh, but liv'd altogether on Vegetables, as Fruits, Herbs and Roots; which I suppose was one great reason of their Longevity. And it may be observ'd, that in *Herefordshire*, and other Countries abounding with Fruit, the People are longer liv'd than in those Countries that want it. But had the *Antediluvians* eaten Flesh, as we do now, I can't imagin what they would have don for Salt: for supposing Dr. *Burnet's* Hypothesis true (of which I think there is no reason to doubt, his Arguments being to me unanswerable) I suppose their Rivers must have bin altogether void of Saltness; and how they could com at Salt any other way, considering the state of their Earth, I can't imagin: And for them to have eaten Meat without Salt must necessarily have greatly prejudic'd their Healths, and shortned their Lives. For we have seen in the late *Irish* Wars great Destruction and Desolation in our Army by eating Meat without Salt, of which at one time there was a scarcity; whole Regiments having bin swept away together with Fevers and Fluxes. But the *Antediluvians* living on Vegetables,

tables, had no need of Salt, there being a sufficient quantity of Acidity in them to confirm the Texture of their Blood, and preserve them from Diseases.

That the Food of the *Antediluvians*, was only Herbs, and the eating of Flesh was not allowed till the Waters of the Flood were abated, the following Texts evince. *Gen. 1.29.* After God had said to *Adam*, *Be fruitful, and multiply, and replenish the Earth*, and had given him Dominion over the Creatures, it comes in; *And God said, Behold, I have given you every Herb bearing Seed, which is upon the face of all the Earth, and every Tree in which is the Fruit of a Tree yeilding Seed; to you it shall be for Meat.* After the Waters of the Flood were gon, God blesses *Noah* and his Sons, as he had before don *Adam*, and said to them, *Be fruitful, and multiply, and replenish the Earth*; and then gives them Dominion over the Creatures: after which he says, *Ch. 9. 3. Every moving thing that lives shall be Meat for you; even as the green Herb have I given you all things.* Now after the use of Flesh was allow'd, we find no one person, *Noah* excepted, who arrived to the Age of any of the Antediluvian Fathers, the natural reason of which is very plain.

Since I have bin mentioning Sea-Salt, I shall make bold to relate a strange and accidental Cure wrought on a Person in a *Tympanitis*, given over as incurable by the most eminent

nent Physicians of *England*, by barely immersing her two or three times over Head in Sea-Water.

The Person was Daughter to an eminent Citizen of *Worcester*; she had labor'd under a *Tympanitis* three or four Years: her Father applied to most of the eminent Physicians for Advice, but all they could do signified nothing. He has several times told me, that his Cloak, tho he was a corpulent Man, would not lap round her, her *Abdomen* was swel'd so big, and she then not above ten Years of Age. It happen'd one Morning that her Mother, two Brothers, her self, and a Maid-servant, were bitten by a little Dog they had, that was grown mad. Advice was presently given by Dr. *Johnson*, an eminent Physician then in *Worcester*, that they should all go to the Salt-Waters to be dipt; (observe by the way the efficacy of these Waters in preventing the dreadful Symtoms that attend those bitten by Mad-Dogs.) The Mother, with her two Sons and Maid-servant prepar'd to go; but she did not design to take her Daughter with her, supposing her not capable of living till she came to the Journey's end. The poor distressed Child seeing 'em all going away without her, told her Father he took care of every body else, but valued not what became of her; on which he being moved with compassion, resolv'd she should go, let the event be what it would. Accordingly she was carried down, and when she came to
be

bedipt, it was as much as two Men could do to immerge her over Head: After they were all dipt, they were carried to an adjacent House, and put to Bed, where she had not bin many Hours, but she call'd for a Pot, and piss'd several Quarts, even more at that one time, than she had don som Months before; and when they return'd to *Worcester*, which was within a few days, she run out of the Boat to her Father without any help, tho she had not bin able to stand of a year or two before. To be short, without any other help, she was perfectly cur'd of her *Tympanitis*, and is now a tall, slender, healthy Woman as any I know.

I have mention'd this thing, because I find it no where taken notice of, and it may be of service to others. Nay, I am told a certain obscure Person in *Herefordshire* has cur'd several by the same Method, to his great Advantage, who withal says, it never once failed him.

I beg the Lady's pardon for writing this Relation without her leave; but since I have no other end in it than to serve Mankind, I doubt not I shall be excus'd.

Helmont positively says, and I have found it true, That Spirit of Sea-Salt which is an exalted Acid, is a certain Remedy in the *Strangury*, a Distemper generally said to proceed from Acids; which if it dos, instead of being cur'd, must be highly exasperated by Spirit of Sea-Salt, the contrary of which I have frequently experienced. *Helmont* somewhere
else

else says of it, *Est namque Acidissimus, nec sibi par habet remedium extinguendis ardoribus Urina, etiam prasente in Vesica Calculo.*

I remember not long since an Eminent Physician told me, that bare Juice of *Lemons* would sooner take off the Heat of Urin in People that are, as we call it, clap'd, than *Emulsions*, or any thing commonly used: which since I have found true; and also that the Urin of such Persons abounds more with Volatil Alkalious Salt, than that of sound People: Upon which I have bin induc'd to try whether the Acid Spirit of *Guaiacum*, which that Wood affords in large quantities, would not be more prevalent in the Cure of confirmed Poxes, than the bare Infusion or Decoction of the said Wood; which in conjunction with *Cinnaber* of *Antimony* or common *Cinnaber*, and *Gum Guaiaci*, I have frequently given with good success in confirm'd Poxes; nay, som that have eluded the Force of a regular Salivation, I have cur'd by this Method.

I am apt to believe, if the rectified Acid Spirits obtainable from most, if not all Woods, were us'd, they would be found to be great *Specifics* in most Distempers, especially Chronical ones. And I have great reason to think that rectified Spirit of *Asb*, taken for a considerable time together morning and evening in a proper Vehicle, would prove a noble Medicin, in gradually wasting Stones already form'd either in the Kidneys or Bladder.

And

And since I have mention'd *Specifics*, I own it may be rationally objected, That my Doctrin of *Acids* dos mightily thwart that of *Specifics*, of which many, that are neither Alkalies nor Acids, seldom fail of curing Distempers, as likely to be supposed to proceed from Alkalious Particles abounding, as any whatever.

To which I answer, that I have only brought my Doctrin upon the Stage, as a general one, in opposition to that general and pernicious one of Alkalies. For should I deny the Doctrin of *Specifics*, I must deny matter of fact; which I shall never do till totally depriv'd of my Reason.

There is a little Herb called *Paronychia cum Foliis Rutaceis*, or *Whitlow Grass*, with Leaves like *Rue*; which the Honorable Mr. *Boyl* recommends as a Specific in the King's Evil: This Herb I have immerg'd both in moderately Acid and Alkalious Liquors, and could perceive no *Luctus* or Effervescency; yet I have known it do wonders in the foremention'd Distemper, without having the least sensible Operation: I shall give one instance.

A poor Woman in *Worcester* having an only Child of about ten Years of Age, who by weaving Bone-lace maintained both her and it self, made a great complaint to me one day that she was undon. I asked her the cause; she told me, her Child who kept her in her old Age from Begging, had for two Years had Scrophulous

phulous Tumors in and near her Privities; and that about three Months before, one of the said Tumors began to ulcerat; and that now the Ulcers were got into her Body, which made her incapable of Sitting. I went immediatly with the Woman to see her Daughter, and found what she said was true, the poor Girl being the most miserable Spectacle I ever saw. I remembring what Mr. *Boyl* had said concerning *Paronychia*, and being sufficiently satisfied there was no reason to doubt of any thing he had said, when related as matter of Fact on his own Knowledg, resolved to try it upon this Girl. I first purged her three or four times with *Calamelanos*, *Resin of Fallap*, and *Cremor Tartar*; and afterwards gave her two large Handfuls of the said Herb dried, ordering her to put it into two Gallons of small Beer after it had don working, and to let it stand six days, and then drink it for her constant Drink: She continued to take it for about two Months, in which time, without applying any thing to the Ulcers save clean Clothes, both Ulcers and Tumors vanish'd; and she continued well till I left *Worcester*, which was two years after the Cure, and is so still for ought I can hear, having several times inquir'd after her.

[I have several times since made use of the said Herb with good success, tho I cannot say it will always succeed, there being som *Scrophulous* Cases, wherin nothing yet known will
take

take the least place. I have seldom recommended Medicins without full trial, but at this time shall presume to propose the use of *Stavesacre*, applied by way of Pultice to inveterat scrophulous Tumors, at the same time using such evacuating Medicins as won't debilitate Nature. The reasons for my recommending it I think not fit to take notice of now ; but if I find it answers expectation, I shall do it hereafter.]

Another Instance of the Operation of Specifics, without their being either Alkalies or Acids, is that frequently experimented Decoction of *Mercury*, after having bin boil'd a considerable time in Water, which has bin found not to lose the least Grain of its former Weight, or impart either Taste or Color to the Water ; yet the Water in which the Mercury was decocted, has not fail'd of killing and bringing away Worms, when other celebrated Medicins have.

Likewise *Crocus Metallorum*, and other Preparations of *Antimony*, being barely infus'd in Wine, without losing the least Grain of their Weight, or imparting either Smell, Taste, or Color to the Wine in which they are infus'd, never fail of giving the Wine a violently *Emetic* Quality. I have at several times pour'd above 20 Quarts of *Canary* upon the same Ounce of *Crocus Metallorum* powder'd, and found the last Quart as violently *Emetic* as the first ; tho after nice trial, I could not perceive

ceive the Pouder diminish'd one Grain in Weight, or had, as before observed, caus'd the least sensible Alteration in the Wine.

The *Cortex*, that noble Specific in all intermitting Fevers, I don't apprehend to perform its office either as an Alkaly or Acid; tho being mix'd with Acids, it dos its work much better than without 'em.

It is a general Complaint against that noble Medicin, and is the only occasion of deterring som from the use of it, That being given in never so large quantities, especially in *Quartans*, it only puts off the Fit for a time, but dos not totally eradicat the Distemper, which returns after a certain period. To obviat which Inconvenience I have bin advised to give it after the following manner, which seldom or never fails of preventing the return of the Distemper.

Two Hours before the Fit, I give a gentle *Emetic*; after that has don working, an *Opiat*: when the Fit is over, I give the quantity of a large Nutmeg of the following Electuary with the Decoction, and repeat it every 4 hours for five or six days, ordering my Patients to eat somthing of easy digestion within an hour after each Dose. After five or six days, I give it only first in the Morning, and at five in the Afternoon for a Week, eating somthing after each Dose.

R *Cort. Peruviani elect. Unc. unam;*
reducetur in pulverem impalpabilem &
 L *tum*

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R *Cort. Peruviani elect. Unc. unam;*
reducetur in pulverem impalpabilem &
 L cum

*An Essay concerning
cum Syrupo Limonum, q. s. f. Electua-
rium.*

Immediatly after each Dose I give about a quarter of a Pint of the following Decoction :

*R Cort. Peruviani elect. Unc. unam.
Rad. Gentianæ Dracm. duas
Flor. Centaurii Pug. duas
Aq. Font. ℥ quatuor,*

*Bulliantur ad dimidiæ partis consumptionem, &
coletur ; colatura reservetur ad usum.*

By this Method I have known three or four Ounces of the *Cortex* perfectly cure *Quartans* without any Relapse, after taking a Pound or more in the common Method, which has only put by the Fits for a time.

The Reasons, as I apprehend, why this method of giving it should be more prevalent than that commonly us'd, are ; the Particles of the *Cortex* being very firm, the Medicin being taken, and the Patient fasting three or four Hours after it, it slides out of the Stomach into the small Guts, and so on : the small Guts being emty, there is not pressure enough to squeeze but a small quantity of it into the Lacteal Vessels ; so that the greatest part of it is carried away as Excrement : But the Patient eating something of easy digestion, within so small a time as an Hour after it, that eaten, is turn'd into Chyle before the Particles of the
Cortex

Cortex can be carried off; and the Chyle being of a viscous Nature, retains the small Particles, and carries 'em with it into the Blood : so that the Blood is more impregnated by one Dose given this way, than with twenty Doses without presently eating after it.

To confirm the truth of what I have said concerning the firmness of the Particles of the *Cortex* ; if you boil it never so well, the clear Decoction will scarce cure a *Quotidian*, or *Tertian* Ague : whereas the *Cortex* after it has bin well boild, being reduc'd to Pouder, and given after the foresaid manner, will cure a *Quartan*.

It would be a great Blessing to the Commonwealth of Physic, if there was a faithful Record kept of all the Cures wrought by simple Medicins, wherby Physicians might arrive to a certainty of curing more Distempers than that of Agues; which I never expect to see, so long as tedious, nonsensical Compositions are depended on.

I don't remember any of the antient or modern *Botannic* Writers have mention'd the Leaves of *Assarabacca* to have any other quality than that of a violent Purger by Vomit and Stool : But Mr. *Pit*, a late eminent and learned Apothecary of *Worcester*, my good Friend, told me, that he found it to be one of the most noble Purgers of the Head he ever knew, having a different Operation from any other Medicin he ever met with ; that the snuffing up of three, four, or five Grains of the Pouder of

the dried Leaves at Night going to Bed, would on the Morrow, without disturbing rest that Night, but rather causing it, occasion the discharge of a vast quantity of serous Matter from the Glands of the Nose; nay, would sometimes last for two or three Days, without being in the least a *Sternutatory*.

By the repeated use of this Pouder alone, I have known the most violent confirmed Headachs imaginable taken off, after they have eluded the efficacy of the most noble, celebrated *Cephalics*: But this ought to be minded, That whoever takes this Medicin, must confine themselves to their Houses, and keep as warm as if they had taken the most violent Purge.

I have bin told by a certain Gentleman, who uses a great quantity of the Pouder of this Herb among his poor Neighbors after the foresaid manner, that he was once induced to use it in a Deafness of long standing: he gave the Patient four or five Grains to snuff up into each Nostril every fourth or fifth Night, and order'd three Grains every Night to be blown with a Quil into each Ear; and in a Fortnight the Party recover'd his Hearing as well as ever.

Not long since I was told by a worthy Gentleman, that a Person who had bin deaf 14 Years, was induc'd to try whether the *Assarabacca* would do him any Service, and in a little time, using it after the forementioned manner, he was perfectly restor'd to his Hearing.

I could expatiate largely concerning simple
spe-

specific Remedies. But what I have said is enough to satisfy the World, that I allow the Doctrin of *Specifics*; nay I think it ought to be lamented it is not more cultivated.

I have bin told by som intelligent Persons, who have much convers'd with the Natives of *West-India*, that the Doctrin of *Specifics* is mightily cultivated by those barbarous People, wherby they have arriv'd to a certainty in curing most Distempers; and that to see People of 120, and 130 Years of Age, is as common, as in *England* to see People of 60. Now what a shame is it for us who live in a learned and inquisitive Age, to be outdon by those barbarous and illiterat People? Nay, for ought I know, the greatest part of our Skill we had from them, or a People altogether as ignorant.

The Physicians of *Europe* are not arriv'd to so great a certainty in any thing, as in the cure of Agues; and who may we thank for that but the poor *Indians*, who imparted to us the use of their famous Bark?

From whence had *Hippocrates*, that Father of Physicians, his Skill, but by collecting the common Observations? which alone made him so famous throout the World. But the State of Nature is much alter'd in that long tract of time since he lived; and the difference of our Climat from that wherin he lived, makes his Observations not altogether hold good with us. So that if we will arrive to any certainty in our Art, we must make nice Observations of our own.

Helmont in his Treatise of Fevers says, *Quisque Artificum facit quod promittit, Statuarius nempe Statuam, Calcearius Calceos indubiè parat; solus autem Medicus nil audet ex arte spondere suâ, quia nititur Fundamentis incertis, per accidens duntaxat, subinde, atque dolose proficiuus.* Which is, that there is a certainty in all Professions but that of a Physician; and it is altogether our own Faults, for want of due Observation, that we act on such Uncertainties as we do.

But to return to the business of Acids; What great benefit does Mankind in general receive from Mineral-Spring-Waters? All of which are allow'd to be Acids; and according to the difference of the Acid contain'd in 'em, they have different Operations. Some of them, as *Acton, Epsom, Dullidg, Northal, &c.* abounding with *Aluminous*, as well as *Vitriolic* Particles, work by Stool. Others, as *Tunbridg, Astrop, Ilmington, &c.* abounding with *Vitriolic* Particles only, are Alteratives, and generally carried off by Urin. The *Bath-Waters*, abounding with *Nitro Sulphureous* Particles, have a different Operation from any of the former, but are generally carried off by Urin, tho sometimes by Sweat.

There is scarce a Person laboring under any Chronical Distemper, or ill habit of Body, whose Fortune or Business will permit him, but at the proper Season is sent to one of the foremention'd Places; and I believe, to our no
 *
 great

great Credit, that more People are freed from Chronical Distempers by the use of Mineral Waters, than by all other Prescriptions: Tho I am well satisfied that Mineral Waters, not properly taken, do frequently a great deal of Mischief.

Besides the service don to Mankind by drinking Mineral Waters, what advantage accrues to many laboring under som sort of Nervous Distempers, &c. by merely bathing in the Nitro-sulphureous Hot Baths? But this ought to be observed, that the bathing in Hot Baths is only serviceable to those whose Nerves are contracted; but in all Cases where the Parts are relaxed, it is highly pernicious.

There is also a new way of Sweating by means of the Volatil Acid Steams arising from the evaporating Brine, in making Salt at our English Salt-pits, lately invented by Mr. *Henry Hodges* of *Droytwych* in *Worcestershire*, wherby several great things have bin don, even where the *Bath*, common *Hummums* and *Bagnios* have altogether proved ineffectual. I am sorry I am where I cannot procure a number of Experiments to insert in this place, which might be of service to Mankind: but to supply their room, I shall add something don in a little Bathing-House I erected of my own, wherin I imitated, if not outdid the way of sweating at *Droytwych*; but my many Avocations hindered me from prosecuting it.

I procur'd som of the *Virgin-Salt* from the Salt-Rock in *Cheshire*; and, as I had occasion, dissolv'd a convenient quantity in Spring-Water, making a Brine as strong as that obtainable from the Brine-Pits; with this Brine I fill'd a large Iron Pot, which had Pipes of Wood that went from it to a little Room over-head, made convenient for People to sweat in: Under my Pot I made a fire, which both warm'd the Room, and made the Brine to boil; and from the boiling Brine arose such quantities of Steams as fill'd my Room, which, when warmed and full of Steams, was fit for use: I had, beside the large Pipes which supplied the whole Room, several others of different lengths, by the means of which I more forcibly conveyed the Steams to any particular part. By this way of Sweating, I knew a Gentlewoman cured, as was also one at *Droymych*, of an inveterat Leprosy, which had eluded the Efficacy of all other Medicins and Baths. It rarely fail'd taking off the most violent old Aches and Pains. In all Relaxations of the Nerves and Tendons, I never met with any thing comparable to it. To be short, I found it as good as the Bath in most things, and in many out-did it; and I believe Mr *Hodges*, computing the time he used the way of Sweating at his Brine-Pits, and the number of People he had, can produce a greater Catalog, and more considerable Cures wrought, than have bin at the Bath.

*

But

But here it may fairly be objected, that I allow the bathing in Hot Baths to be only serviceable where the Parts are contracted, and pernicious where they are relaxed: Yet I commend the bathing in these hot Steams, as of admirable use where the parts are relaxed; in which there seems a plain Contradiction.

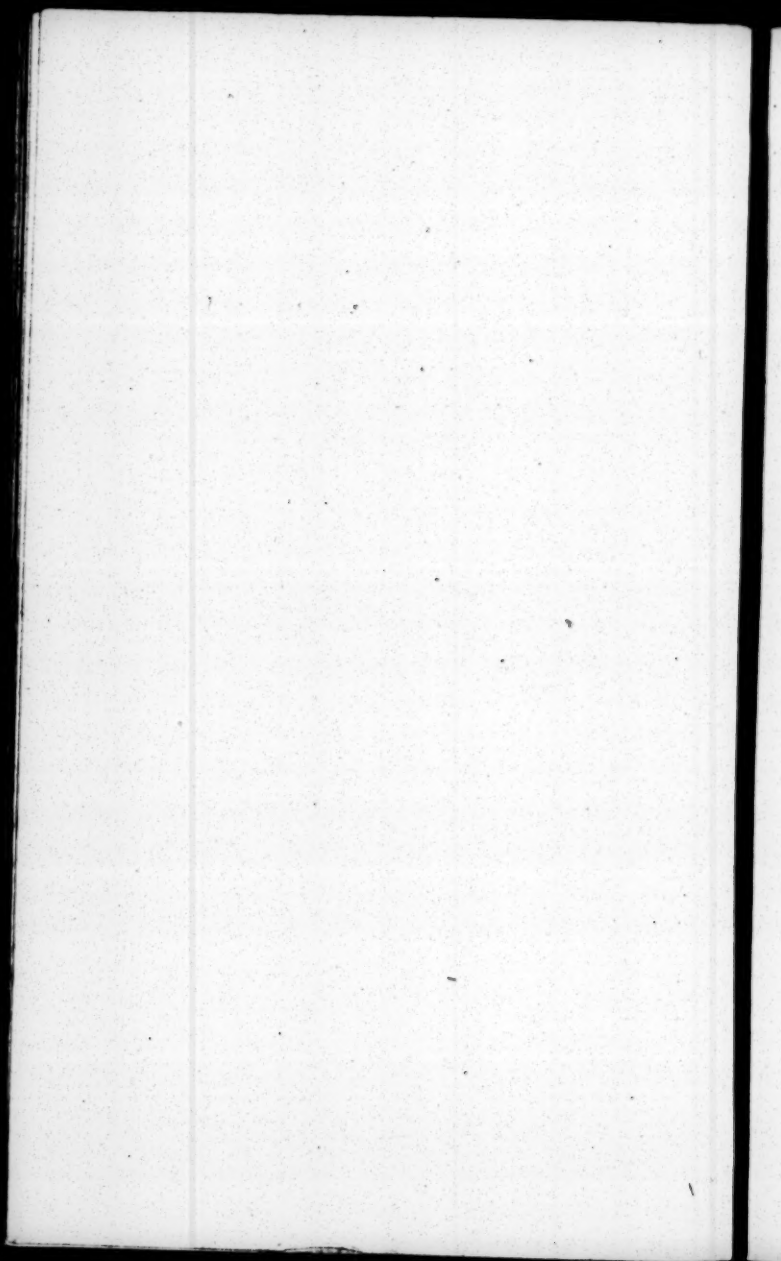
To which I answer: That while People are incompassed in the Steams, and sweating, there is a universal Relaxation of all the Parts; but the Steams proceeding from the Dissolution of the Virgin Salt, which is full of Volatil Acid Particles, the parts being greatly relax'd in Sweating, are capable of receiving the said Particles into them, wherby, as soon as the sweating is over, they regain a greater Vigor and Contraction.

I hope by the means of Experimental Philosophy, so happily begun and encourag'd by that admirable, and never sufficiently to be valued Mr. *Boyl*, to see the Art of Physic arrive to as great a Certainty and Perfection as other Arts and Sciences. For, as I before observed, by chymically analyzing the Blood and Juices, both in their natural and morbid states, we may arrive to som certainty in the knowledg of the Cause of Distempers, of which I am afraid we have hitherto bin greatly ignorant; and when once their Causes are thorowly known, their Cure will not be difficult.

I shall conclude in the Words of that industrious Philosopher by the Fire, *Helmont*, in his
Trea-

Treatise De Lithiasi. In nostris furnis legimus, non esse in Natura certius sciendi genus ad cognoscendum per causas radicales & constitutivas rerum; quam dum scitur quid, quantumque in re quaque sit contentum. Ita quidem ut cognitio & connexio causarum, non constant clarius, quam cum res ipsas ita recluseris, ut coram prodeant, ac velut tecum loquantur. Siquidem entia realia, duntaxat stantia, in suis primordialibus, & succedentibus in seminum Principiis, adeoque in verâ entitate Substantiali dant notitiam, & proferunt causam cognoscendi Naturam Corporum, mediorum & extremitatum, Quippe sunt causæ generationis, existentia & permutationis, secundum ipsorum radicem, quoniam (teste Raimundo) utcumque Logicus habeat profundum ingenium Argumentabile, aut Naturale, de rebus extrinsecis; tamen nunquam per aliquam rationem quæ venit ad sensum, poterit directè cognoscere, nec judicari, cum quali natura, aut virtute, per fortitudinem intrinsecus, habeat Multiplicatio grani, crescere super terram, nisi pro similitudinario ab observatione desumpto. Nec sciet unquam, quomodo semen in terra pullulet, crescat, & colligat fructum: Nisi cum doctrina experimentalis prius intraverit in nostram Philosophiam Naturalem, & non Sophisticam sermocinalem illam, quæ nascitur Logicis, per diversas præsumptiones Phantasticas; qui cum prognosticationibus sequellarum, contra vim Naturæ, faciunt multos pertinaciter errare in Sophisticatione mentis. Quia per nostram mechanicam Scientiam, intellectus est rectificatus,

ficatus, vi experientia, respectu oculi, & vera notitia mentalis. Imo experientia nostra stant supra probationes Phantasticas Conclusionum; ideoque nec eas tolerant: Sed omnes alias Scientias ostendunt vivaciter intrare in intellectum. Unde deinceps intelligimus per Naturam, intus illud, quod est, & quale est. Quia per talem Scientiam, intellectus stat denudatus superfluitatibus & erroribus, qui ipsum ordinario remouent à veritate, propter præsumptiones & præjudicata credita in conclusionibus. Hinc enim nostri se direxerunt ad intrandum per quamlibet scientiam (in omnem experientiam) per artem, juxta Naturæ cursum, in suis univocis principiis. Spagyria enim sola est speculum veri intellectus; monstratque tangere, & videre veritates earum in claro lumine. Nec fert argumenta logicalia, quia nimis remota & longinqua, de claro lumine. Ideoque habet tabula smaragdina: Per hoc genus demonstrandi, fugiet à te omnis obscuritas, & acquiritur tibi omnis fortitudinis fortitudo fortis, vincens omnia subtilia, & solida penetrans. Propterea vocor Hermes Trismegistus, habens tres (id est omnes) Partes Philosophiæ, atque totius mundi Telesmon; Hæc ille inter orare ergo & pulsare, supponitur Medium in Naturalibus, querendi per ignem.



Some Farther
CONSIDERATIONS
Concerning
ALKALY and ACID,
Being an
APPENDIX
To a Late
ESSAY.
WHERIN

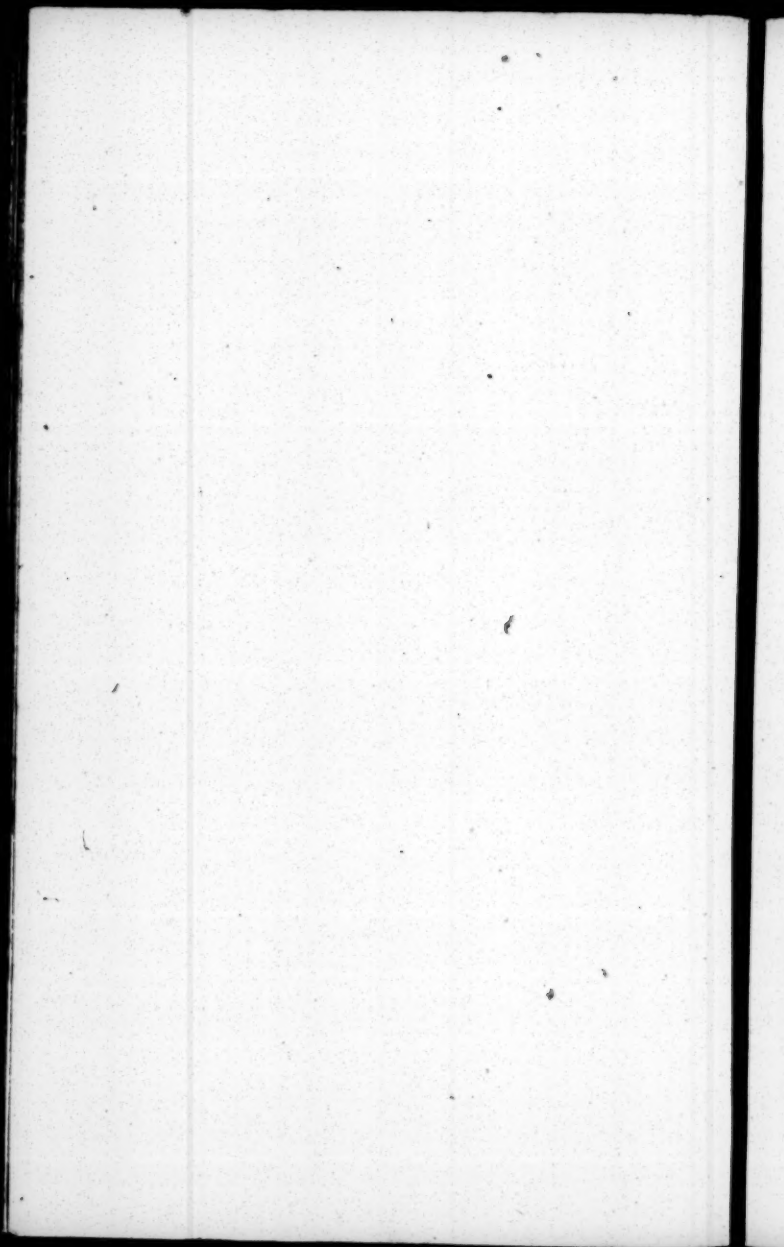
The Terms are made Clear, and the Natures
of them more fully Explain'd.

Together with an Answer to the Objections
rais'd against som Things contained in the
Essay.

By **JOHN COLBATCH**, a *Member*
of the College of Physicians.

The Third Edition, with som Additions.

L O N D O N,
Printed by J. D. for D. Brown, 1698.



TO THE
Learned and Ingenious
Dr. EDWARD BAYNARD,
Fellow of the College of Physicians,
LONDON.

Honored Sir,

THE Civil and Gentleman-like
Treatment I met with the first
time I saw you, and the many
Favors receiv'd from you since I was ho-
nored with your more intimat Acquain-
tance, embolden me to prostrate this
Trifle at your Feet. I pretend not ther-
by to merit any thing from you, but on-
ly to acknowledg the many Obligations
under which I lie. It would be a Wrong
to you for me to declare your Praise,
your Merits being better known than I
am

am able to represent them. It was you, *SIR*, who were (for ought I know) the most early Cultivator of the Doctrin of Acids in the Cure of Diseases in this Nation; and the Success you have had in your Practice, sufficiently makes it appear, that you well understood what you went about, when you durst contend with the whole World, by treading in a new Path to aid and succor Life, in which few Physicians ever went before. *Maſte ! SIR*, in ſo great a Work as ſaving from the Grave; ſo ſhall the Name of *BAYNARD* not be known to the Widow, nor the Cries of the Fatherleſs entail Vengeance on your Houſe. And would your Multiplicity of Buſineſs permit you to collect your own Obſervations, and make them public, I am ſure the Mouths of all your Oppoſers would be for ever ſtopt, and their Errors cur'd by your healing Hand; for I know your Charity extends to Lunacy, as well as other Diſeaſes: And none but the Moonſick can doubt ſo known and clear a Truth, as are the daily and moſt
appa-

apparent Cures don by the happy Discovery of the use of Acids. 'Tis well known, *S I R*, that Nature and Art have sufficiently arm'd you for any Enemy, if such there be; tho your condonable Disposition is like the Sun, which shines even upon those Curs that bark at him. Your Pardon, *S I R*, I crave for this Trouble, and doubt not to meet with a Generous Acceptance and Protection from you; and if Dr. Baynard espouses my Cause, I care not who is against me. I assure you I bring no common Inclinations to serve you; neither would I by ordinary Testimonies express that Passion wherwith I am,

S I R,

Your most Humble, and

most Devoied, Servant,

JOHN COLBATCH,
M

The PREFACE.

I Have so inquir'd into the Causes of Diseases, as to be altogether certain of the truth of my Hypothesis already advanced, which I am now in some measure endeavoring to confirm: But I pretend not at all to have arriv'd to so much Certainty as by my Methods to make People Immortal, and that no Person shall die with whom I am concern'd, which is what I believe some have expected. But for my part, I shall always intirely submit to, and have respect for the Providence of God, who alone is the Author and Disposer of our Lives, and by the Mouth of an inspir'd Writer has declar'd, That our days are determin'd; and beyond the Bounds set by that wise Author of Nature we cannot pass: it being wholly impossible for Creatures to contend with their Creator, or to extend the Time that he has limited.

Physicians are of all Men, without doubt, the most unhappy; People in their Extremities looking on 'em as their Saviors and Deliverers: yet after all, when they have don what was in the power of Man to do, having in all respects acquitted themselves with the utmost Fidelity and Diligence, if their Patients die, their appointed time being com, and the number of days allotted 'em by the Almighty being expir'd, the Friends of the Deceased seldom fail to blame 'em in one respect or other, tho instead of that the Physician has deserv'd their utmost Favor and Esteem.

By

By what I have said, I would not be understood to be so far a Predestinarian, as to believe Peoples Lives are not frequently prolong'd by the use of fit and proper Medicins: For if it were not so, why should the alwise Creator have bin at the trouble of providing such a vast number of Medicins in the Animal, Vegetable, and Mineral Kingdoms, if he did not design a real service to Mankind in distress?

God generally gives a Blessing to proper means, and does not work Miracles every day. He teaches the Plowman to plow his Ground, and the Seedsman to sow his Seed: but the one instead of a Plow must not use a Harrow; nor the other expect to reap Wheat, if he sows Barly. So it is in the Practice of Physic; he that expects success in it, must first endeavor to know the Causes of Diseases, then to use fit Remedies, and after that the Event must be left to the Almighty.

The Plowman may plow his Ground aright, and the Seedsman sow his Seed in due season, and after all they may reap no Crop: so the Physician may have an exact knowledg of the Causes of Diseases, and use the most fit and proper Medicins, and yet be frustrated in his Aim. Which ought to shew us what an exact reliance we should have on the Blessing of God in all our Endeavors, without which we are like to make but little progress in any thing.

I tread in an unbeaten Path, and therefore cannot so happily and easily arrive at my Journy's end, as if I had had som body or other to have chalk'd out my way.

I hope I shall not by these Endeavors incur the displeasure of those Physicians who are of a contrary Judgment to me, they being still at liberty to use their own Methods, and Alkalious Medicins: For tho we act on different Principles, our Ends and Designs, I hope, are the same, which are the Cure of Diseases; and if, after a multitude of Experiments, I am convinc'd that Acids are not the Causes of Diseases, but that Alkalies are, and on that score induc'd to use Acids in all or most Distempers, I see no reason why I should be reproach'd for it, since I have made no personal Reflections upon any one.

As for the Physicians of our own Nation, I have the highest Value and Esteem for them, having generally found 'em to be Men of greater Learning, and to understand the Business of their Profession better than most of the Physicians I have met with abroad.

Som Farther

CONSIDERATIONS

Concerning

Alkaly and Acid, &c.

I Thought to have said no more on this Subject till the Publication of my History of *Human Blood*; but finding this to be of great difficulty, and that a larger number of Experiments than I at first thought will be necessary to make it complete in all its Parts, wherby it will be much longer than I at first intended before it appears in the World; I have therfore thought fit at present,

First, To explain the Terms, or what is meant by *Alkaly*, and what by *Acid*; of which I find very many, who are not Physicians, in a great measure ignorant.

Secondly, To explain the Nature of 'em more fully and clearly than I have yet don.

Thirdly, To answer the Objections raised against som particular things in my *Essay*.

All which Heads I shall handle with as much Brevity and Perspicuity as possible; omitting the fuller Prosecution of them to my History

of *Human Blood*, which shall com abroad as soon as possibly I can, but I doubt it will be som years first.

I shall make bold to declare, That I have not publish'd this Doctrin of *Alkaly* and *Acid* out of a design to appear singular, or be the Head of a Faction, but of mere Compassion to Mankind, my Fellow-Creatures, whose deplorable Circumstances under mistaken Methods I have long bewail'd, to see Physic made the Scene of Slaughter, and so many miserable Mortals (the helpless Sick) sent daily to their last Homes, as Victims to Error and Ignorance; while the learned Prescriber jogs on in his old mistaken *Alkalious* Road, not dreaming, as the Wise Man says, *that Death is there, and that his Portion* (I mean the Patient's) *is with the Worms.*

But to return to my Business.

First, I shall explain the Terms, or what is meant by *Alkaly*, and what by *Acid*.

- *Alkaly* derives its Name from the Herb *Kaly*, from whose Ashes is extracted a large quantity of Salt, which by the *Venetians* and others is much us'd in making Soap and Glafs: this Salt they call *Sal Kaly*, and by leaving out the *S*, *Alkaly*. Now the Ashes of all or most Vegetables affording a Salt of the same nature with that of the Herb *Kaly*, therefore all *Lixivial* Salts are equivocally call'd *Alkalies*, as well as all other things of the same nature, whe-

whether manifestly *Saline* or not ; such as *Arfenic*, and all the *Testacea*, as *Pearl*, *Coral*, *Crabs Eyes*, *Oyster Shells*, &c. and all *Urinous* Spirits and Salts, such as Spirit and Salt of *Blood*, *Urin*, *Hartshorn*, &c. And som think, that of these Alkalies is made the famous *White Powder*, so much talk'd of, which kills without a Bounce, and murders without making a Noise.

Acid, I suppose, did first derive its name from *Acaid*, an *Arabian* word for *Acetum*, *Vinegar*, which is the most common and known Acid ; and therefore all things of the same taste and nature are Acids : such are the Juices of most Fruits and Plants in their natural state, and unfermented ; tho all fermented Vegetable Juices retain somthing of their pristin Acidity, tho not in so eminent a degree. But every body knows that fermented Juices, such as all sorts of Wine, Ale, Beer, &c. let 'em be preserv'd with never so much care, will at last return to their former state of Acidity. All *Metalline* Sulphurs are to be rang'd among Acids, being nothing but a Congelion of Acid Particles. I may likewise without presumption reckon all sorts of *Balsams*, and *Pinguedinous* and *Oleaginous* Substances, among the number of Acids ; because in the most bare and simple Distillation they afford large quantities of Acid Substances, but nothing Alkalious. *Bread* also, that is not without reason accounted the Staff of Life, affords by Distilla-

tion a large quantity of an Acid Substance, which is no despicable *Menstruum*. Sugar, which tho in its taste it seems to be nothing less than an Acid, yet by a Philosophical Management appears to be nothing else but a Congestion of Acid Particles.

Thus for the present I think I have given a sufficient account of what I mean by *Alkaly*, and what by *Acid*; and also what things are to be accounted *Alkalies*, and what *Acids*.

There are som things which seem to be of a mixt nature between *Alkaly* and *Acid*, which we call *Neutrals*. Now those of this Tribe, which afford a far greater quantity of Acid Substances than Alkalious ones, I stick not to call *Acids*, because the Acid predominates; and those that afford a far greater quantity of Alkalious than Acid Substances, I call *Alkalies*: Tho in a stricter sense they deserve rather to be called either *Sub-Acid Alkalies*, or *Sub-Alkaline Acids*, according as either the one or the other predominates.

I shall now procede to the second thing, which is, to explain the Nature of *Alkalies* and *Acids* more fully and clearly than I have yet don.

For the right performance of which, I shall compare the Operation of them upon Human Bodies, both internally and externally applied.

I shall begin with *Sal Kaly*, which is the Standard of Alkalies, and compare that with *Vinegar*, the Standard of Acids.

Sal Kaly, and so all Lixivious Vegetable Salts, as Salt of Wormwood, &c. being applied outwardly to the bare Skin, scorches and burns it, as if a red hot Iron was actually applied to it, causing an *Escar*, which falling off, an Ulcer follows: Nay, there is scarce any other Caustic used, than a *Lixivium* of *Sal Kaly*, which is what the Chirurgeons call Capital or Strong *Soap Lees*, evaporated to Driness. The same taken inwardly, without being greatly diluted by some Aqueous Vehicle, in most people causes enormous Vomiting, which I my self have formerly experienced; and tho never so much diluted, if it excites not Vomiting, yet rarely fails of depraving, palling, or totally destroying the Appetite: Besides, being conveyed into the Blood, by breaking its Globules, and spoiling its Texture, it causes either Scorbutes, Rheumatisms, Sciaticas, Consumptions, Gouts, Palsies, or some other of the fatal Tribe of Chronical Diseases.

Now I have shewn what *Sal Kaly*, and the rest of the Tribe of Vegetable Lixivious Salts will do; let us next see what effects even common plain Vinegar, which is the standard of Acids, will have, being externally and internally us'd.

It is well known that Vinegar externally applied, is of extraordinary use in many sorts
of

of Inflammations, especially in an *Erisipelas*, or St. *Anthony's Fire*. Clothes being dip'd in it, and applied to the Forehead and Temples, to the Wrists, the Stomach, and Bottoms of the Feet, I have experienced to be of singular use in term very burning Fevers: I have likewise (before I found out a more certain Remedy) us'd it with great success in violent Bleedings at the Nose, by dipping a Sponge in good strong Vinegar, and applying it to the *nostrum*. I have also known it with good success us'd by poor people in stinking old Ulcers. From all which it appears, that being externally applied, 'tis no Caustic, and will make no Ulcer, but on the contrary, will cure Ulcers, ease Pain, &c. [Nay, in Scorbutic and Rheumatic Pains, there is scarce a better Medicin, especially if impregnated with Aromatics, and the parts well bath'd with the same Morning and Evening. This I have of late often us'd to the no small relief of People in great distress.]

Now we have seen som of its good Effects, being externally applied; let's see what it will do, internally taken.

First I shall mention an Account given of it by the Ingenious Dr. *Baynard*: He says he was call'd in to a Person who had a total Suppression of Urin, under which he had labor'd a considerable time, and that several things had in vain bin given him; he immediatly gave him a large Draught of Vinegar, which soon

foon made him piss freely ; and by repeating it two or three times, he was perfectly freed of his Indisposition. The Doctor has given an account of this in one of the Philosophical Transactions; but I have not read it, nor have I time at present to look over those Papers. I think also he told me, that he did the same thing with it two or three times. He likewise gave me Instances of many Persons in most violent Fevers, who have bin presently cur'd by drinking large Draughts of *Atterpool* Water well acidulated.

I am also credibly inform'd, That Dr. *Bentley*, a late famous Physician in *Cheshire*, who lived to almost a hundred Years, had such wonderful Success in Fevers, that he got the Name of the Fever-Doctor, and that his Medicin was nothing but the Decoction of a certain Herb well acidulated with the Spirit of—a Noble Acid, which I am obliged not to reveal.

A worthy Lady, whose Name I must not mention, has assur'd me, that she has brought in the use of Vinegar, or Verjuice Posset-drink, in the Small-Pox, among her poor Neighbors in the Country where she lives; and where that has bin us'd from the beginning, she has scarce observ'd any one to die, or be disfigured; which agrees with what I observe in my *Essay*, p. 108.

I have likewise often remark'd, that three or four Spoonfuls of it will immediatly check the
most

most violent Vomitings, occasion'd by the taking of som harsh *Antimonial* Medicins.

A great many other good qualities has simple Vinegar internally and externally applied (besides its being a good *Menstruum*) which I think not fit here to enumerat.

Som time since meeting with a Treatise of the Plague, written by one *Kemp* a Master of Arts (in all appearance a judicious honest Man) and finding in it a large Encomium of Vinegar, I could not forbear inserting it in this place. I shall not transcribe all he says of it, by reason it would take up too much room, but only what is most material.

' In the Works of several Physicians (says Mr. *Kemp*) ' there is often mention made of ' taking Vinegar, as it were by the by, in a ' small inconsiderable quantity, not for its own ' sake, but with other Medicins, as if it were ' only to help them down the better, and make ' them palatable: they will tell you that Vine- ' gar is good with Cucumbers, and gives a ' pleasing relish to a Sallet; wheras in truth ' neither the one nor the other are good with- ' out the Vinegar; it is not only wholsom in it ' self, but also makes other things so, and ' takes away their Hurtfulness. When you ' speak of this singular Liquor, away with ' cold Commendations, which argue rather ' a willingness to dispraise, than a readiness to ' commend: If it did whet ones Wit as ' much as sharpen ones Stomach, there could ' nothing

‘ nothing dull or flat be spoken of it. It is
‘ Food and Physic, Meat and Medicin, Drink
‘ and Julep, Codial and Antidote. Did you
‘ formerly taste it but as common Sauce? Do
‘ you now eat it as a common Remedy. When
‘ you are well, it is a Preservative from Sick-
‘ ness; when you are sick, it is a Restorative
‘ to Health. ’Tis like Apparel, which you
‘ put on, not only for Comeliness to hide Shame,
‘ but also for Warmth to keep out Cold. ’Tis
‘ like the Swords which the Gallants wear,
‘ not only for Ornament when they walk, but
‘ also for Defence, to fright a Thief when they
‘ travel, and slay an Enemy when they fight.
‘ ’Tis Relish for Sauce, ’tis Sauce for Meat,
‘ ’tis Medicin for Diseases, ’tis Cordial for the
‘ Heart; and not only a Cordial for the Spi-
‘ rits, but an Antidote against Poison; not
‘ only an Antidote against Poison, but against
‘ the Plague, the chief of Poisons: So Vine-
‘ gar is the chief of Antidotes, as the Sword is
‘ the King of Weapons.

‘ If you consider the Plague as arising from
‘ the Corruption of the Humors (as indeed it
‘ is the supreme and highest degree of Putre-
‘ faction) you may also take notice that no-
‘ thing resists it more. ’Tis Vinegar that
‘ keeps Fish, as Salmon, Oysters, and the
‘ like (which otherwise would soon cor-
‘ rupt) from Rottenness and Stinking: and
‘ if it would not do so much for Flesh,
‘ why has it bin so much used for em-
‘ balming

‘balming dead Corps? Nay it not only preserves, but recovers Flesh from Corruption. Roast stinking Meat, and baste it with Vinegar, and it shall neither offend your Nose nor Palat.

‘If you consider the Plague as a Poison, Vinegar is an Antidote against it. Hence ’tis that Physicians, to suppress and take away the fiery Venom of *Spurge, Laurel, Mezereon,* and other Plants, steep them in Vinegar, and so give them safely to their Patients; whereas otherwise they would kill, and be a worse Remedy than the Disease. Som have bin choakt by eating poison’d Mushrooms; but had they taken a Draught of Vinegar, they had bin out of danger. *Dioscorides* tells you it resists all Poisons hot and cold; and *Celsus* saith it is the most effectual Remedy against them; and tells of one poison’d by the Sting of an Asp, who being at a place where there was no Liquor, and not able to go to another where any might be had, by chance found a Flagon of Vinegar, which he drank off, and presently recover’d.

‘Has the Plague taken away your Stomach? Vinegar will stir it up, and get you an Appetit to your Meat. Is your Throat scorcht, your Tongue black and chopr, and your Mouth sore? Any ordinary Nurse will tell you the Virtue of Vinegar, to make a Gargarism, and wash it. Are you like to be choakt with Phlegm? Syrup of Vinegar is

' a common Medicin to cut it. Is your Brain
' loaden with Vapors, that you are like one in
' a Lethargy or dead Sleep? Let som Vinegar
' on a hot Iron be smoakt under your Nose,
' and it presently makes you awake. Are you
' pain'd in the Head, and troubled with tedi-
' ous Watching? Wet a Rose Cake or Cloth
' in Vinegar, and lay it to your Temples,
' and you may go to sleep, and take your
' rest.

At last he thus concludes. 'Tis for the Vir-
' tue of Vinegar that I wrote this Book. I
' would be loth to present you with a Glow-
' worm instead of a Diamond; or put a Bul-
' rush instead of a Spear into your Hand,
' when you are to fight with such an E-
' nemy. Imagin well, and think highly of
' this Medicin. I value my own Life as
' much as another dos his: I had rather
' take Vinegar alone than many other, nay
' than any other single Medicin without it.
' Despise it not, because easy to be had; nei-
' ther let it be contemned, because familiar.
' It is the more excellent, because common;
' the more precious, because cheap: the Vir-
' tues of it are so many, that they will hardly
' be believed; and therefore the greater, because
' incredible.

This plain Medicin cannot be sufficiently
recommended for the use of poor People, e-
specially in inflammatory Diseases, in most of
which it has scarce a fellow; for which cause I
have

have transcrib'd what this honest Man has said about it.

The next thing I shall do, will be to compare *Arsenic*, as the highest and most exalted Alkaly, with Oil of *Vitriol*, the most exalted Acid.

As for the external use of *Arsenic*, I know nothing of it experimentally; but it being of pernicious consequence internally taken, I suppose it can have no friendly operation externally applied.

Internally taken, it causes the most enormous Vomitings and Convulsions of the Stomach, cold Sweats, Palpitations of the Heart, Swoonings, most violent Thirst; and in general, seems to be a direct Enemy to Life, which in a short time it fails not to destroy. All which effects it will undoubtedly have, given in never so small a quantity. And all those who have bin so vain as to pretend to correct the poisonous, venomous Quality of *Arsenic*, so as to convert it into a good and safe Medicin, have attempted it only by the means of Acid Salts, such as *Sea-Salt*, *Nitre*, *Tartar*, *Vitriol*, &c. wherein I cannot tell whether any has yet bin so happy as to succede.

To prove *Arsenic* an Alkaly, and as such the Cause of those dreadful Symtoms that attend such as are so unhappy as to take it, I shall insert a Relation I had from Mr. *Payne* an Apothecary of *Brentford*, on Saturday, Feb. 16. 9 $\frac{1}{2}$, which is as follows.

A young Woman of *Brentford* having taken a very large quantity of *Arsenic* (as he told me, an Ounce) was immediatly attended with the most violent Symtoms imaginable; on which *Dr. Morris* was called in, who gave her large Quantities of *Sallet Oil*, the usual Remedy, without the least abating the Symtoms: Upon which he order'd them to procure a large quantity of Lemons, and to press the Juice out of them; of which he plentifully gave her, which soon took off those imminent and direful Symtoms that inevitably threatned Death; tho the Operation of the Acid might be somewhat impeded thro the quantity of Oil she had taken before.

But to return to my Business, which is to see what are the effects of Oil of *Vitriol*.

I confess the Acid Particles of this Oil are so concentrated, as to make it unfit to be externally or internally applied of it self; but being diluted in a proper Vehicle, is a Medicin second to none that I know of. A few Drops in Canary given to the youngest Children troubled with Worms, seldom or never fail of having the desir'd effect. It being mix'd with Hony of Roses, is one of the best Medicins perhaps known for the Scurvy in the Gums, breeding Flesh where it is wanting, and fastening the Teeth. Being mix'd with Spring-water and Brandy, of each equal parts, to a moderat Acidity, it is no despicable Medicin, giving ease in the most tormenting Pains of

the Gout, the Part being fomented with it night and morning. I may be almost positive, that the Medicin us'd by the ingenious *Swiss* Gentlemen who now reside in this City, and are becom so deservedly famous, is nothing but a mixture of Oil of *Vitriol* with a certain Oleaginous Body in due proportion. This Medicin rarely fails giving immediat Ease in the most torturing Pains of the Gout. Which confirms what I have said in my Essay of the Gout, where I assert, that it is not from any Acidity in the Blood that the Gout is occasion'd, but from Particles of a quite contrary nature, viz. Alkalious ones; as evidently appears by analyzing the chalky Substance contain'd in the Nodes.

In my Tract of the Gout I have given an account of the Preparation of the foresaid Remedy, which is a very wonderful one, tho its Preparation be most easy.

A better general Medicin than Oil of *Vitriol* is scarce known in most continu'd Fevers; any small Liquors, as Barly water, small Beer, &c. being well impregnated with it, and drank freely.

I took som pains to transcribe what Mr. *Kemp* in his Treatise of the Pestilence has said concerning the Virtues of Vinegar: Oil of *Vitriol* being another of his Favorit Remedies in the cure of that worst of Distempers, I shall also trouble you with a little of what he says concerning it.

‘Take

‘ Take som Spring-water, and put it into a
 ‘ fresh Glas, and drop som Oil of *Vitriol* or
 ‘ *Sulphur* into it to make it sharp; then sweet-
 ‘ en it with Sugar, and drink it, both as a
 ‘ Preservative against a Fever or the Plague,
 ‘ and as a Medicin and Julep in time of Sick-
 ‘ ness: and let me tell you, plain Spring-wa-
 ‘ ter, and Oil of *Vitriol* or Brimstone, is a
 ‘ better Julep in the Plague, pestilent, ma-
 ‘ lignant, and other burning Fevers, than al-
 ‘ most any other distil’d Water without it.

‘ Note, It is a vain and scrupulous Error to
 ‘ take, when you are dry and burning hot, but
 ‘ two or three Spoonfuls of Julep at a time. I
 ‘ never denied my Patients Drink in the Heat
 ‘ of a Fever, but let ’em drink Julep as much
 ‘ as they please; for a little Julepdos but little
 ‘ good, and rather increases the Heat: as the
 ‘ pouring a little Water upon a Smith’s Fire
 ‘ makes it flame the more, and burn the hot-
 ‘ ter; wheras a great deal dos quite extinguish
 ‘ and put it out.

‘ And because this Oil of *Vitriol* is so ex-
 ‘ cellent and useful a Remedy mixt with Wa-
 ‘ ter, in this and all hot Diseases I should ad-
 ‘ vise every ingenious Person that lives in the
 ‘ Country never to be without it.

‘ These Oils you must understand cannot be
 ‘ taken by themselves, but with Spring or di-
 ‘ stil’d Waters; and you must be careful of
 ‘ spilling any Drop on your Clothes, for it will
 ‘ fret and make a hole in them. Now if you

' refuse to meddle with them for fear of receiv-
 ' ing any hurt, you may as well do so by Fire,
 ' which you must not sit by, lest a Spark light
 ' on your Apron; neither must Men take To-
 ' bacco for fear of burning their Faces: And
 ' yet I must tell you, it is better to have a Spot
 ' on your Gown, or a Hole in your Clothes,
 ' which the negligent flabbering of it may oc-
 ' casion, than a Purple in your Skin, or a Borch
 ' or Carbuncle in your Flesh, which the dis-
 ' crete taking it will hinder.

' *Mindcrarus* in his Book of the Pestilence,
 ' where he treats of Oil of *Vitriol* and Brim-
 ' stone (which are much the same) saith,
 ' There is no Putrefaction whose Strength it
 ' dos not break, no Infection it dos not over-
 ' com, no depravation of Humors which it
 ' dos not rectify: In truth, might I speak free-
 ' ly, if I should be hindred or forbid the use of
 ' Oil of *Vitriol*, I would never com to the
 ' Cure of the Plague; or if I did, I should
 ' com disarim'd.

Mr. *Kemp* wrote his Book of the Plague for
 the benefit of the Poor, in the Year 1665,
 when that dreadful Distemper rag'd in this
 City.

The following Mixture is a noble Medicin
 in that painful Distemper, the Stone in the
 Kidneys.

Take of Oil of Bitter-Almonds one Ounce, Oil
 of *Vitriol* two Drams, Oil of *Sassafras* a
 Scruple;

Scruple; mix them very well: then add Spirit of Wine rectified three Ounces; digest two or three days in a gentle heat. The Dose is a small Sweetmeat Spoonful in Old Hock, or Infusion of Juniper-Berries, once in four hours during the Paroxysm.

Given for a Month or six Weeks past in the Morning, and last at Night, in an Infusion of Lavender Flowers, it is an admirable Medicin in Epilepsies.

I could mention many cases more in which this Medicin is of singular use; but in so doing I should too much swell this Appendix.

I shall next compare the *Testacea*, such as *Pearl, Coral, Crabs Eyes*, &c. with natural Balsams and Gums, such as *Balm of Gilead, Tolu, Peru*, &c. *Gum Ammoniacum, Galbanum*, &c.

As for *Pearl, Coral*, and *Crabs Eyes*, I know no use they are of at all externally applied; and being internally taken, no body that I know pretends they are useful any further than to absorb the Acidity of the Stomach, where people labor under any Indisposition attended with an Acidity there. But they are so far from being useful in that case, that I scarce ever knew 'em so: And in any other case they have not the least shew of being useful, but frequently do a great deal of mischief, as I have observ'd in my Essay on the Small-Pox, &c.

Here let me mention a short Case related to me by Dr. *Baynard*, pertinent to this place.

A Merchant's Wife of some Eminence in *Bristol*, laboring under a decay'd Stomach, was reduc'd to such Weakness, as she was not able to go, and vomited all she took: Her Physicians supposing her Blood abounded with Acids, had loaded her weak Stomach with the whole Retinue of the Alkalious Kingdom, keeping their old Circle from the *Testacea* to the Volatil Alkalies, and from thence to the *Testacea* again; but at last she was perfectly cur'd with a few Doses of the *Gas Sulphuris* given in the *Bath Waters* cold, twice or thrice a day.

As for Balsams, should I pretend to describe their Excellences, it would be more fit for a large Volume, than to have any room in the Appendix to a small Essay. What a noble Medicin is Balm of *Gilead* in many cases? The Excellency of which is such, that God by the mouth of an inspired Writer, in way of allusion, when his people were in a calamitous Condition, cries out, *Is there no Balm in Gilead? Are there no Physicians there* (to apply it)? *Why then is not the Wound of the Daughter of my People healed?* What a noble Remedy is *Ammoniacum* in the most deplorable Astma's? the Spirit distil'd from which, with an equal quantity of *Verdigrease*, in a naked Fire, I believe to be as rare a Medicin as ever was us'd; nay, all the Gums and Balsams freed from their
Ramous

Ramous Viscous parts by Distillation, become much better Medicins than when in their natural state.

I shall say no more of Balsams, for fear of outrunning my bounds; but procede to answer the Objections rais'd against what I have said in som parts of my Essay.

Object. 1. You say that the Scurvy is occasion'd by too great a quantity of Alkalious Particles in the Blood, and is only cur'd by Acids. If so, how coms it that those who live on nothing almost but highly-salted Meat, are more troubled with the Scurvy than others, when you own Sea-Salt to be an Acid?

Ansiv. I own that Seamen, and such as dwell by the Sea-side in Marshy Grounds, who for the most part live on Salt Meat and Fish, are more troubled with the Scurvy than others. But this procedes not from their eating a larger quantity of Salt, but from eating more Flesh and Fish than others do, which abound with Alkalious Particles, and from the moistness of the Air about 'em, which hinders their free Perspiration. As for the Sea-Salt, which is in great quantities mix'd with their Food, that is all or most of it soon carried off by Urin, and with it som of the Alkaly too, which therby frames an *Armoniac* Salt, with which it is well known the Urin of such Persons abounds. Now what we call *Sal Armoniac*, is only a mixture of Volatil Alkaly and Sea-Salt. But

the Pores being shut by reason of the moisture of the Ambient Air, the Volatil Alkaly which should be discharg'd either by insensible Transpiration or Sweating, being pent in, causes all the Symtoms complain'd of by those Persons. To confirm which, it is well known that Seamen at Sea, or those who live in Marshy Grounds, can scarce be made to sweat by the most violent Labor. Now all who have bin so curious as to taste Sweat, know very well it has an Alkalious and not an Acid Taste: so that Sweating, or free Transpiration being hindred, the Blood must necessarily abound with too great a quantity of Alkalious Particles; all those that should have bin discharg'd by the cutaneous Glands being kept in it. And so I hope this Objection is answered.

Object. 2. In your Essay, p. 138. you allow that Acids in som Distempers do exorbitantly abound in the Stomach: Now how coms it, when there is so great a quantity of Acid in the Stomach, that the Blood and other Juices should be destitute of Acidity; there being no other way to convey any thing into the Blood or Juices, but thro the Stomach; and therefore with whatever the Stomach abounds, one would think it must necessarily be imparted to the Blood and other Juices?

Ans. I have before observ'd, *Nov. Lum. Chyr.* p. 14, 15. That there is no innat Ferment in the Stomach, but that the *Menstruum* us'd

to

to dissolve our Food, and turn it into a nutritious Juice, is the Liquor that by chewing our Meat is squeez'd out of the Glands of the Mouth and parts adjacent, which by numerous Experiments appears to be an Acid. Nay, all or most of the noble *Menstruums* I know, either in the Animal, Vegetable, or Mineral Kingdoms, are Acids. Now the Food being convey'd into the Stomach, and mix'd with the Volatil Acid Liquor of the Glands of the Mouth, is by means of the same dissolv'd, and turn'd into a Substance fit for the Nutrition of our Bodies; a state of Health suppos'd.

It is well known, that few are troubled with an Acidity in their Stomachs, but those who use very little exercise, or whose Business disposes 'em to a Sedentary Life; and by this means the Chyle when made, for want of Motion and Exercise (the Fibers of the Stomach also having lost their Tone, and becom lax) is not soon enough carried out of the Stomach; and lying there too long, the greatest part of it is turn'd into a Substance like the Ferment which at first dissolv'd it. All who know the nature of Ferments, will readily agree with me in this, That it is natural to 'em to endeavor the Change of those things they are mix'd with into their own nature.

Object. 3. But som will say, We can agree in what you have said hitherto; but how will
you

you clear your self of your own seeming Objection, That this Acid Substance shall be kept from being convey'd into the Blood, and so being the only Cause of many Diseases?

Ans^r. I have always observed, That those who complain of an extraordinary Acidity in their Stomach, do

First, Make Water often, and in large quantities.

Secondly, They are very Lean. And

Thirdly, They are for the most part very Costive.

All which Symtoms I shall indeavor to prove are occasion'd for want of the Acid Substance in the Stomach being convey'd into the Blood.

As for the first Head, Why people who complain of an Acidity in their Stomachs, make more Water than those who are destitute of it ; the Reason I judg to be as follows :

The solid Food they eat, instead of being converted into that viscid, white Liquor, we call Chyle only, by means of too great a quantity of Acid, is over attenuated, and converted into a thin limpid Substance, and that in a short time; which Substance, by means of the Liver pressing on the Stomach instead of passing into the small Guts thro the *Pylorus*, is squeez'd into certain Vessels that pass from the bottom of the Stomach to the Kidnys, and so is carried off by Urin.

To prove there are such Vessels as pass immediately from the bottom of the Stomach to the Kidneys, I shall transcribe a Passage of *Doleus's Encyclopedia Med.* pag. 359, 360. speaking of the parts affected in the Dropsy.

‘ I suppose (says he) that Liquid Substances
‘ may be convey’d from the Stomach thro the
‘ *Omentum* or Cawl, to the Kidneys; hence it
‘ is those Animals, who have no Cawl, make
‘ no Water, as may be seen in Birds and Fishes.
‘ To confirm which Opinion, I have dissected
‘ many Animals, always taking care before the
‘ Operation to gorge them with large quantities
‘ of clear Water; and afterwards have
‘ dissected them alive: I have found the Stomach
‘ as yet distended with the Water; but
‘ I pres’d the Vessels of the Cawl leading towards
‘ the Stomach, which being cover’d over with Fat
‘ like the Milky Veins, were, to my no little satisfaction,
‘ very turgid: And forasmuch as in a living Body
‘ the Stomach and other Passages are always
‘ more open than in dead ones, where all things
‘ are flaggy, and fall together, therefore the said
‘ *Transmeation* is not at all to be wonder’d at:
‘ And, which is worth taking notice of, in those
‘ Hydropical People I have open’d, I have always
‘ found the Cawl either putrid, torn, or full
‘ of Tumors. The following Experiment has
‘ also much confirm’d me in my Opinion, *viz.*
‘ That there are Vessels to convey liquid Substances
‘ from the Stomach, thro the Vessels of
‘ the

the Cawl, to the Kidneys. Not long since an experienc'd *Herniotomist*, or Cutter of Ruptures, of *Hanover*, whose Name was *Wedling*, by Section cur'd a certain Person of an *Omental* Rupture; and because a part of the Cawl was also cut away, the Patient who is yet alive, dos greatly complain of a difficulty in making Water; and if at any time he drinks any large quantity, he perceives a great Weight and Pain about his Stomach, and is always loose: hence, in my conjecture, som Vessels which carry the Urin right on to the Emulgents, were cut, by which means all he drank was carried into the *Duodenum*, and so hinders the Fermentation there perform'd, and makes all the Fibers lax. From all which may be prov'd, that all we drink, and of consequence all other Substances made very liquid in the Stomach, do not pass thro the Intestins to the Lactéal Veins, and thence thro the Thorachic Duct to the Heart, because the *Pylorus* is reflex to the Stomach, lest the liquid Substances contain'd in it should slide out. It is therefore certain that liquid Substances lying at the bottom of the Stomach, pass thro it in that part join'd to the Cawl: and if these Vessels, or the Cawl it self, are either lacerated, broken, putrified, or obstructed with *Oedematous* Tumors, it necessarily follows that the liquid Substances in the Stomach must be let fall into the Cavity of the *Abdomen*, and so a Drop-

'Dropſy is cauſed. But being free from any
'ſuch diſorder, liquid Subſtances muſt freely
'paſs thro them to the Kidneys, and ſo to the
'Bladder. I could cite other Authorities be-
ſides my own Obſervations, as Sir *George*
Ent, *Charlton Waldfmiedght*, &c. but this one
I think is ſufficient.

From this Doctrin may very great Conſo-
lation be afforded to People laboring under the
Stone in the Kidneys and Bladder; and indu-
ſtrious Phyſicians need not deſpair of finding
out ſuch Medicins as will diſſolve or break to
pieces Stones contained in either of thoſe parts.
One great reaſon I believe that has hindred
Perſons from making diligent ſearch after ſuch
Medicins, has bin a ſuppoſition that ſcarce
any Medicin could retain its Virtue, but muſt
be in great meaſure, or altogether deſtroy'd by
the many Alterations it muſt undergo, ac-
cording to the ordinary Laws of Circulation;
but were they fully ſatiſfied (as there is no
reaſon to the contrary) of this nearer Cut, I
ſuppoſe people would not think the diſſolving
Stones in the Kidneys and Bladder ſo difficult a
Task as it has hitherto bin thought to be.

[I have known ſeveral that have long la-
bor'd under the Stone in the Kidneys, who
by taking ſuch a quantity of *Cremor Tartar*
and well acidulated *Tartarum Vitriolatum* every
Morning in a Diſh of Water-gruel for 3 or 4
Months together, as would juſt keep them
lax, and drinking fifteen or twenty Drops of
dul-

dulcified Spirit of Salt two or three times a day in any convenient Vehicle, to have bin perfectly freed from all their troublesome Symtoms.]

To prove the Existence of the foresaid Passages for fluid Substances from the Stomach, thro the Vessels of the Cawl, to the Kidnys, and that Medicins may pass unalter'd to the Kidnys and Bladder, I shall insert two Cases.

One Mr. *Bradford*, an eminent Tradesman of *Worcester*, sent to me one Afternoon, desiring me to make all possible haste, for that he was on the Rack: When I came, I found him in a most dreadful condition, he not having made Water two days, and such an intolerable Pain in his Back, that he was not able to support himself under it. I presently gave him som Medicins, ordering him to take them in large quantities once in half an hour. In an hour and half at farthest, he sent to acquaint me that he was well, and at ease, having pist two large Chamberpots full, which held at least two Quarts apiece; and in the first Pot above two large Spoonfuls of small pieces of broken Stones. He has bin several times since, thro hard drinking, under the same Circumstances; and taking the same Medicins, has found immediat relief. Now had these Medicins bin convey'd from the Stomach to the small Guts, and thence by the Lacteal Vessels to the common Receptacle of the Chyle in the Mesenteriv, and so on to the Blood, and from thence bin separated by degrees in the Kidnys, as it is

is brought there by the Emulgent Arteries, it had bin altogether impossible the Effect could have bin so sudden, and the Medicins not greatly alter'd, or totally destroy'd, by the many changes they must have undergon before they could com to the part affected. But by the way of which I have bin speaking, the Medicins might all of them, without being in the least impair'd in their Virtue, be transmitted to the Part affected, and so perform their Operations in breaking to pieces the Stone or Stones they met with either in the Kidneys or Bladder.

Mrs. *Wheatly*, a Glasier's Wife without *Smithfield-Bars*, had a long time bin afflicted with the Stone in the Bladder, and for about nine Months had confin'd her self to her Chamber: the Miliary she underwent was such, that it made her altogether incapable of business; and she despair'd of ever being delivered, all common means having in vain bin us'd: at last she was prevail'd with to send for me. When I came, she gave a lamentable account of her Case; and tho I encourag'd her as much as possible, yet all I could say made but little impression upon her: however, she was at last prevail'd to try what I could do. I began to give her som Medicins, which she took in large quantities, and repeated 'em once in four hours: it was on a Monday morning she began to take them, and on the Wednesday night following I examin'd her Water, and
found

found som small ragged Pieces of Stone in it; and tasting the Water, I could discern the Medicins, which were Salino-sulphureous ones, to be as vigorous altogether, as they were before she had taken them, and not, as I could discern, in the least alter'd in their taste. On Thursday Morning by five a Clock, she sent her Maid-Servant to acquaint me that she was deliver'd from her Misery, and perfectly well. About eight a Clock I went to visit her, and found a Stone she had voided with little pain; the Medicins having acted upon the *Sphincter* Muscle of the Neck of the Bladder, and so relax'd it, as to make it give way for the Stone to pass: The length of the Stone was an Inch and half and half a quarter; it was three Inches and half round one way, and two Inches and a half another. There were som small Flaws in it, which were made by those little ragged pieces that came away the Night before, which I found in the Chamberpot. The thing was so extraordinary, that it came to the Ears of her late Majesty, who desir'd to see the Stone, which I procur'd for her; and she was pleas'd to say, *That it was the most extraordinary thing she had ever seen or heard of, to be brought away without Cutting or Instruments.* He who doubts the Truth of this Relation, may yet see the Stone at Mrs. *Wheatly's*, who carefully preserves it: The extraordinary Veracity and Integrity of the Person is such, that I am sure she would not tell an Untruth to do any Man service. I

I could give other Instances of this nature ; but these two, I think, are sufficient, and a plain Demonstration that there are Vessels which carry fluid Substances immediatly from the Stomach to the Kidneys, without those many Circumgyrations that people generally imagin ; nay, I question not but suddenly to make it appear by ocular Demonstration : which if I could not do, yet to people who are not mere Sceptics, Demonstrations deduc'd from reiterated Experiments will be sufficient.

As a further confirmation of the Existence of these Urinary Passages, I shall presume to add a couple of Relations I had from Dr. *Tarborough* of *Newark* in *Nottinghamshire*.

'I was (says the Doctor) sent for to a Gentleman who liv'd at som distance from me, and for a considerable time had labor'd under an *Ascites*, his *Abdomen* being distended prodigiously, and having all the Symtoms of a true *Ascites*. The first Night I came, I gave him a large Dose of *Tartarum Emetticum* (for by the way, common Doses of *Emettics* won't work at all with Hydropical People) and sat by him to see it perform its Operation: after I had sat near two hours, and my Patience almost tir'd, he told me he was confident there was a mistake, and that I had given him a Cordial instead of a Vomit. To which I replied, I was sure of the contrary, that the Medicin was right and good in

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its

‘ its kind. About half an hour after he called for
 ‘ a Chamberpot; but instead of vomiting, he
 ‘ pist a quart or two, and before the next Night
 ‘ had discharg’d all the Water contained in his
 ‘ *Abdomen*.

The second Relation was of a Maid who was under the same Circumstances with the foremention’d Gentleman; to whom, instead of *Tartarum Emetticum*, he gave a large Dose of Infusion of *Crocus Metallorum*, which had the same effect upon her as the *Tartarum Emetticum* had on the Gentleman.

These Relations were made before Dr. Baynard and several other Gentlemen, the truth of which he did affirm with all the Solemnness imaginable.

I confess an *Ascites* is one of the stubbornest and most difficult Distempers to be overcome of any I know: and I should be heartily glad, for the sake of those miserable People who are afflicted with it, that the foremention’d Method would always have the same success; which Dr. Tarborough, thro the whole course of his Practice, never saw it have, only in the two here mention’d. However it seems impossible that these Persons could have bin so suddenly reliev’d, were there not a more immediat Passage for the Water in their Abdomens, than by the ordinary ways of Circulation thro the Blood-vessels; and the reason of Dr. Tarborough’s relating these Cases, was to confirm me in my Opinion of those secret Passages.

[In

[In the Months of *August, September,* and *October* of this present Year 98. I have bin concern'd with three Persons, who had the misfortune to labor under the foresaid dreadful Distemper; and considering that evacuation by Urin was the only one that could relieve them, and that the *Omentum* was a part greatly concerned in this matter, and also that by proper Fomentations it might not be impossible to remedy the Disorders of it, I prescribed such as then occurred to my mind, and by the repeated use of them, together with other proper internal Medicins, two of the three were made to piss plentifully, and are past danger; and of the third I am not in despair. After further trial, if the success continues to answer my expectation, the World shall certainly be fully inform'd of it.]

The Learned and Ingenious Dr. *Baynard's* Account of the sudden Effects of Vinegar before-mention'd, in a total suppression of Urin, is also a good Argument to evince the truth of what I have bin here speaking. But to proceed to my second Head, which is,

That those who abound with an Acidity in their Stomachs, are generally very lean.

To prove which Position, will be no difficult Task; for the solid Food they eat (and generally they have good Appetits) which affords most Nutrition, being over-attenuated, is thereby made capable of passing thro those Vessels I have before mention'd (which I shall

presume to call *Urinary Vessels*) the more gross parts only being convey'd to the small Guts ; which having but few nutritious Particles in them, can afford very little Nourishment to the parts, which being destitute of their usual and necessary Nourishment, Leanness of consequence must follow.

A sufficient Argument to prove that Leanness proceeds from the want of a sufficient quantity of Acid Substances in the Blood, is this : That Fat is nothing else but a Concrete, produc'd from the Mixture of the Acid and Oily Parts of the Blood. Now the Blood has never any Acid in it (at least not in abundance) but when People are in a perfect state of Health : and when the Blood is destitute of a sufficient quantity of Acid Particles, and abounds too much with Alkalious ones (which argues a morbid state) as it dos in those who have too great a quantity of Acid in their Stomachs, which upon experiment any man may find to be true, tho at first sight, I confess, it looks like a Paradox ; I say, when the Blood is destitute of a sufficient quantity of Acid Particles to coagulat the Oily ones, there can be no fresh production of Fat ; and that already generated having its Acid Particles mortified by the great quantity of Alkalious ones, presently loses its consistence, and is again converted into a thin Oil, which is soon carried off by some of the Emunctories, there being nothing in the Blood fit for it to incorporat or mix with :

with : and when these oily, fat Particles are gon, the corrosive, alkalious Particles prey upon the musculous, nervous Fibers, and cause general Disorders: at other times when in great quantities thrown upon particular Parts, according to the nature of the part affected, they cause different Diseases. But I know no Disease caused by Acids, unless it be over much Fatness, and what we call *Heartburn*, if they are to be accounted Diseases, the most healthy People being subject to the latter; tho the Heartburn is as often cur'd by Acids, such as *Ol. Vitriol. dul.* &c. as by Alkalies. From whence I conjecture, that the Heartburn also may be occasion'd from the Blood brought to the Coats of the Stomach, abounding with too great a quantity of Alkalious, Corrosive Particles, which may vellicat and contract the part. Having in short dispatch'd this Head, I shall procede to my third :

That those who abound with an Acidity in their Stomachs, are for the most part very Costive.

From the same reason that people abounding with an Acidity in their Stomachs are lean, it is that they are costive also ; the more thin, fluid Substances being carried off by the Urinary Vessels, and only the more gross ones conveyed into the Guts: and for want of a sufficient quantity of Moisture, the Excrements are over-hardened. and the Guts not sufficiently lubricated ; and therefore Costiveness must necessarily follow.

But after all, I foresee another Objection will be rais'd ; and therefore to make every body easy, I shall endeavor to answer it.

Object. If the Acidity in the Stomach causes the solid Food we eat to be over-attenuated, and so the nutritious Particles to be carried off by the Urinary Vessels, as in *Atrophies*, &c. without being convey'd into the Blood, to afford Nutrition to the parts ; how coms it to pass that Iron or Steel, which you own to be an Acid, can be of any use ? For instead of being useful, one would think by increasing the Acidity, it should exasperat and increase the Malady.

To which I answer : I have before observ'd, that Iron or Steel cannot be convey'd into the Blood before it is turn'd into a Vitriol ; and therefore to those who have a great Acidity in their Stomachs, it is found absolutely necessary to give it without any precedent Preparation ; which has bin long since observ'd by the Learned and Judicious Dr. *Cole*, in his Physico-Medical Essay concerning the late Frequency of Apoplexies. Now Iron or Steel given crude and unprepar'd, is by the Acid in the Stomach turn'd into a Vitriol ; wherby the Acid is so embodied, as to make it uncapable of passing thro the almost imperceptible Urinary Passages, and likewise to hinder it from over-much attenuating the Chyle ; so that being mix'd with the Chyle, they are together convey'd into the small Guts, and so on to the
Blood :

Blood : and by its Scurtic Acidity it confirms the Texture of the Blood, and mortifies the luxuriant Alkalious Particles it meets with. [And for the relief of those who over-much abound with an Acid Juice in their Stomachs, I believe there is scarce any thing can outdo the Iron Bullets before taken notice of in this Edition of the Essay.]

As for what I have mention'd concerning the Efficacy of Juice of Lemons, in immediately abating and taking off the violent Symptoms that attended a Person who had bin bit with a Viper, after the Volatil Salt of Vipers, and other Antidotes had in vain bin given; I find the very same thing taken notice of by *Hoffman* in his *Clavis Pharmaceutica Schroderiana*, pag. 444, 445. [But for a further illustration of that matter, I refer you to my account of the Cure of the person bit by a Viper.]

An ingenious Person not long since, who had formerly imbrac'd the Doctrin of Acids, was willing to try what Effects the Transfusion of Acid and Alkalious Liquors into the Veins of Dogs would produce: accordingly he injected som Oil of *Sulphur per Campan.* into the Veins of one Dog; which instead of disordering him, made him brisk and lively, and very hungry: But in another Dog, into whose Veins som Oil of *Tartar per Deliquium* (a known Alkaly) had bin injected, it produc'd a clear contrary effect, the Dog being lumpish and dull, and dying in a few days. But it is

to be observ'd, that these two Liquors were so diluted, as to make 'em fit to be taken at the Mouth, before they were injected. Something (as I remember) of this nature is taken notice of by *Fred. Hoffman, Fil. de Acido & Viscido.*

I have bin assur'd by a Person of the greatest Honor, that the *Jews* in *Constantinople* (who are the only Physicians there) advise their Patients, when the Plague rages, to eat Lemon and Sugar, and to drink Lemonade in large quantities, and that by way of prevention; and those who do so, seldom or never have the Plague: And when they are call'd to Persons who have it, if they take but the foresaid Medicins in large quantities, they very rarely miscarry.

From many late Observations I am fully convinc'd, that the Gout is without any great difficulty to be cur'd, or at least a Fit to be taken off in a small time, by a proper Course of Acid Medicins, both internally taken, and externally applied to the Part affected, and that without the least Inconvenience afterwards: And I am certain, the only reason why people have hitherto so frustraneously attempted the Cure of that Distemper, is the general Prejudice they have had against Acid Medicins, which are only capable of doing service.

Tho I contend so mightily for the use of Acids in general in the Cure of Diseases, yet I pretend not in the least that any one Acid is

*

capable

capable of answering a Physician's Intention in all Diseases: Neither Vinegar nor Lemons are to be reckon'd *Panaceas*; tho, for ought I know, in the hands of one who well understands their use, they will either of 'em do more than many of the celebrated *Panaceas*.

No man is fit to be call'd a Physician, who dos not well understand the Nature of Diseases, and of the Juices contained in a Human Body, which has hitherto bin but little inquir'd into; Men taking up with general Notions that had no Foundation, which has caus'd Physic to be so long practis'd without the least certainty; Physicians changing the Method of their Practice almost as often as we do our Clothes. Being well skil'd in the Anatomy of the solid Parts, is a noble Qualification, and inables a Man to talk finely; but dos not in the least tend to inable men to cure Diseases. It is an exact Skill in the Anatomy of the Juices, the fluid Parts, that will make a Man a good Physician; but in this sort of Study few have bin conversant. An exact knowlege of the *Materia Medica* in general, and the specific Differences between those Medicins, seemingly of the same Tribe, is also absolutely necessary: For that Acid that will cure a Fever, may not cure the Gout; and that which will cure the Gout, may not perhaps cure another Chronical Distemper; there being a vast difference between those very Medicins which are seemingly the same.

I do positively affirm, That neither Blood, nor its *Serum*, by being any way that I know of expos'd to Putrefaction, will in the least becom Acid, but rather more Alkalious. Now Acids in general hindring Putrefaction, and reducing putrid things to a state of Soundness, must be the great Medicins to cure Diseases; for there is no Disease but proceeds from som sort of Putrefaction of the fluid Parts of our Bodies.

What I have said in my *Essay*, and also in this *Appendix*, has bin only in general terms; but I am now reducing all to a Method, designing my *History of Blood* to be also a Methodical History of Diseases, with an account of the proper Medicins for their Cure; and being resolv'd to serve my Generation to the utmost of my power, let my treatment be what it will.

[As I before said, so I repeat it again, that upon many Reviews and serious Consideration, I have thought fit at present to lay aside my *History of Blood*; for to make it perfectly complete, requires so much charge, that it is more fit to be don at the expence of the Public, than by any privat Person: however, I hope to have it finish'd by one means or other before I dy.]

I shall conclude this Appendix with two or three Cases, and the Method I used in the Cure of 'em, to confirm the Truth of som things in my *Essay*.

Case

Case the First.

A Gentleman had labor'd under a *Sciatica* for two or three Years, and applied himself to Physicians of the greatest Eminence for Advice, and by their Prescriptions bin loaded all that time with Alkalious Medicins, without receiving the least advantage; having his left Leg and Thigh greatly emaciated, and a very large Glandulous Tumor on his Hip: He was never free from violent Pain, and being very lame. I first purg'd him well for a Fortnight with *Calamel. Tart. Vitriolat.* and *Resin of Jal-lap*: I afterwards gave him the following Medicins, which he took constantly three times a day for about ten Weeks; in which time, without any external Application at all, his Pain left him, the Tumor disappear'd, and his Leg and Thigh, which were before wasted to mere Skin and Bones, became equally plump and fleshy with the other. [And to this day he continues well, it being at least five years since the Cure was wrought, and has never had the least return of his Distemper.]

℞ *Cinnabaris Antimonii, vel (quod melior est) Facititia Com. Officinarum recenter levigat. unciam unam; Gum. Guaiaci dracmas sex; Conf. Cynosbati uncias tres; Syr. Sambuci q. s. f. Electuari-um. Dosis est quant. Nucismoscata ter in die,*

*die, horis medicinalibus, superbibendo
uncias octo Infusionis sequentis.*

R *Rad. Bardana siccata. & grosse contus.
uncias octo; Baccar. Juniperi, uncias
quatuor sem. Bardana, Fraxini, ana
unc. unam semis; Sassafras unciam u-
nam; Tartari Vitriolati dracmas tres;
Aq. Font. ℥ sex. Infunde clausè &
calidè per horas xii. & coletur, colatura
sing. libris duabus. Adde Sp. Liq. Guaiaci
Rect. unciam semis. M.*

This Method I have so often experienced in this Case, that I dare recommend it to be generally depended upon.

Case the Second.

A pretty young Gentleman, who had bin too free with the fair Sex by his over frequent Embraces, was poxt to the highest degree, being leprous from the Crown of his Head to the Soles of his Feet, and had all other Symtoms of the most confirm'd Pox I ever met with. He was altogether averse to Salivation; I therefore gave him the foresaid Medicins, which he took three times a day for about two Months: but I first purg'd him well with *Calamel. Tart. Vit.* and *Rezin Fallap.* and for the last Fortnight sent him to the *Bagnio* three times a week, ordering him to take a large
Dose

Dose of the Electuary and Infusion about an hour before he went in. At two months end he was perfectly freed from his Leprosy, and his Skin as clean and white as ever I saw any one's in my life, and all other Symtoms that attended him were perfectly vanish'd.

Case the Third.

A Corporal in the Right Hon. the Earl of Oxford's Regiment, was pox'd to the highest degree; on which he applied to a Physician near *Chelfy*, who put him into the poudering Tub of Affliction three times; and tho each time he underwent a regular Salivation, his Symtoms were not in the least abated. He was so emaciated, that he was like a mere Skeleton. He had violent Pain in his Head, Shoulders, Arms, Thighs, and Shinbones; and when he was warm in Bed, the Pain was so exasperated, that tho he was scarce able to stand, yet out of his Bed he was forc'd to get, and crawl about in the cold, which afforded him som small Relief. His Appetit was quite lost, and he had a continual Hectic upon him. To be short, I think I never saw so miserable a Spectacle in my life. I gave him the Electuary and Infusion thrice a day, which soon abated the violence of the Symtoms; and continuing to use them about three months, tho he had seldom less than four or five Stools a day, he gather'd Flesh, and in that time became

came a hale hearty Man, to the surprize of all who knew him. I may be positive it was not above six Weeks before he was able to walk about his business.

I have given these Medicins I believe to two hundred People in several Chronical Disorders, with extraordinary success: And tho in the day-time they seldom fail of working three or four times by Stool, and in the night provoking Sweat; yet I have scarce known any who have taken them, that during the time of their taking, for all the great Evacuations they cause, have not sensibly gather'd Flesh, and if weak, recover'd Strength. Whereas let the strongest persons take any of the common Purgers but a month together; and tho they have not above two or three Stools a day, yet they will emaciat and weaken them to a great degree: which is a great Argument of the excellency of *Cinnaberin* Medicins mixt with *Gum Guaiaci* above the common Purgers; the one carrying off the nutritious as well as the excrementitious Juices, the other only causing a due secretion of the noxious excrementitious Juices: by which Nature is rid of any Load wherwith she is oppress'd, and inabled to apply the nutritious Juices to the ends for which they are design'd.

I have in extraordinary Cases given above a pound of *Cinnaber* at times to one person, and never knew the least ill Symptom follow, nor ever once to excite Salivation: and I verily believe,

lieve, in the hands of one who knows how to use it, it is one of the greatest Medicins in Chronical Diseases in the World; but being us'd with *Gum Guaiaci*, and *Spiritus Guaiaci rect.* it dos much better than alone, they greatly assisting in its Operation. Being mix'd with proper Cephalics, and taken for som time, it is a wonderful Medicin in Epilepsies, and other nervous Distempers. *Hoffman* has wrote a whole Treatise of *Cinnaber*; and I could say ten times more in its praise from my own Experience, than *Hoffman* has don.

Children are frequently troubled with Convulsions, more of 'em dying of that than of all other Distempers. Testaceous Pouders are generally given, as the great *Asylum* to which Physicians fly, but rarely with Success. But giving 'em temperat Acids mix'd with proper Cephalics; I have generally found 'em to answer my Intentions.

I was not long since sent for to a Child who had Convulsions to such a degree, that his Parents believ'd it to be an Epilepsy. His Belly was hard like a Stone, and he had continual Tortions and convulsive Contractions, sometimes of his Hands and Arms; sometimes his Legs and Thighs would be distorted, and almost out of Joint; sometimes he had the most violent Vomitings, and at other times the Muscles of his Face would be strangely contracted. I gave him the following Medicins, and in about two days he was free from his
Con-

Convulsions; and in a fortnight's time perfectly well.

℞ *Tart. Vitriolati* dracm. unam; *Crem. Tart.* dracmas duas; *Castorei* dracm. semis; *Sacchari albi* unciam semis. *M. f. Pul. in viii Chart. distribuend. ex quibus cap. n^o 1. quartâ quâque horâ in Cochlear. Julap. seq. superbibendo Cochlear. tria vel quatuor ejusd.*

℞ *Aq. Rorismarini, Pulegii, ana* uncias tres; *Peon. Comp.* uncias duas; *Ol. Vitrioli Dul. scrupl. trinum*; *Syr. Peonie* dracmas tres. *M. f. Julap.*

℞ *Ol. Amygdalar. Amar.* unciam unam; *Ung. Dialtheæ* uncias duas; *Ol. Anisi, Pulegii, ana* gut. vi. *M. f. Linimentum, cum quo illinatur Regio Umbilicalis manè & vespèri, superponendo Pannum lencum ter duplicatum.*

By this Method, with som variation, according as different Symtoms appear, I have known multitudes of Children, whose Lives have bin despair'd of, cur'd of the most violent Convulsions in a small time.

I have likewise observ'd, that in malignant Fevers, those who are treated according to the usual custom, with Alkalies and *Alexipharmics*, are generally attended with violent Convulsions :

violent Convulsions : But those who use Acids plentifully, are seldom or never convulsive.

I have cured many of that troublesome Cough that has rag'd this *March*, by only giving large quantities of Lemon and Sugar, to be eaten day and night ; and an Opiat with som Drops of Oil of Sulphur *per Campan.* at night going to Bed.

In violent Hysterical Fits in Women, I have frequently (seldom failing of success) given a mixture of two or three Spoonfuls of Vinegar, a few Grains of *Castor*, and about a quarter of a pint of Spring Water : Which has frequently abated and taken off the Fits, tho before greatly exasperated by Spirit of Hartshorn, *Sal Armoniac*, &c. *Gas Sulphuris* also given alone is a wonderful Medicin in violent Hysterical Fits. And in the beginning of Consumptions, I believe there is not a better Medicin than *Gas Sulphuris* given in large quantities. But the *Cortex*, which is now so universally us'd in Consumptions without the least shew of Reason, I believe to be the most pernicious Medicin in Hectical Distempers that ever was given. I have inquir'd of several Physicians and Apothecaries, whether they ever yet saw a Hectic cur'd by the *Cortex*, who have unanimously declared they never did ; and that almost all that have taken it have died. I must declare I never saw any one cur'd of a Consumption, but by Acids, such as *Gas Sulphuris*, *Ol. Sulphuris per Campan.* &c. by which I

my self have cur'd many. But somtimes in extraordinary Cases, especially if the Distemper has bin of long standing, and the Texture of the Lungs much spoil'd, Acids themselves will leave us in the lurch, even after the Symptoms have seem'd to be much abated, and things have look'd with a promising Aspect: Which I have experienc'd in one or two Patients, whose Lives have bin very dear to me; which I cannot mention without the greatest Concern. Notwithstanding I dare not even in Consumptions leave off the use of Acids, because I am sure they will do more than any thing else; and there are no Medicins whatever that will make people immortal. I have cur'd many with Acids, but never could hear of one cur'd without them.

By the use of proper Acids I have rarely fail'd of curing the following Distempers, som of which are accounted among the most difficult ones; and if ever I can find time, I will give a distinct account of the cure of them.

(1.) *Hard Bellies* in Children, with an Atrophy attending 'em, which is very common, and seldom cur'd by other Methods.

(2.) *The Stone*, to take it off (if of a passable Bigness) with Ease, Speed, and Safety.

(3.) *Childbed Fevers*, of which Dr. Willis says, they are most difficult to be cur'd of any.

(4.) *Catarrh*, or Defluxion.

(5.) *Cholera Morbus*.

(6.) *Diarrhea* and *Dysentery*.

(7.) *Faundice*, &c.

The

The wonderful Success Dr. Baynard (with whose intimat Conversation I have of late bin honor'd) has had thro the Course of his Practice, is eminently known both in *London, Bath,* and *Lancashire*, where he formerly dwelt: And his Practice has chiefly run upon Acids; which (as he has all the reason in the world) he dos strenuously vindicate and defend.

It was out of a Life-saving Principle that this Gentleman imbrac'd the Doctrin of Acids in opposition to the Multitude; who for want of this Knowledg daily record their sad Cures in Sextons Books, and the Weekly Bills: And I dare say, he has wrought more substantial good Cures, than any one besides him, who has acted on different Principles.

I don't find that the Method of making the *Gas Sulphuris*, which is a Medicin I have often mention'd, is any where set down; I shall therefore give an account of its Preparation, which, tho a very easy one, is for all that a noble Medicin.

Gas Sulphuris.

Put into a large Glas Receiver, that will hold six or eight Gallons, about four Quarts of pure Spring-water; then burn in the Receiver a quarter of a pound of pure *Sulphur vivum* made into very long Matches: and when they are lighted, the Flame must be as near the middle of the Body of the Receiver as may be. When you have burnt three or four Matches,

the Receiver will be so full of the Steams of Brimstone, that when the lighted Match is put in, it will be immediatly extinguish'd: you must then stop the Mouth of the Receiver very close with a wet Cloth, and let the Steams condense: when you see the Receiver clear, burn more Matches till it is again fill'd up with Steams; then stop it again, and repeat this work till your Matches are all burnt, when your Water will be impregnated with the Volatil Acid Steams of Brimstone.

This Medicin given liberally in malignant Fevers has don Wonders, even where people have bin given over as dead. It is an excellent Medicin taken by way of Prevention in infectious Seasons. And I think this Medicin, if any, deserves to be call'd the true *Prophylacticon*.

Dr. Baynard has another way of making the *Gas Sulphuris* somewhat more warm and Alexipharmic.

Take a large Glass Receiver, with a Mouth of three or four Inches Diameter: place it Horizontally, into which pour *Aq. Petasitid. Ulmaria simp. Vini Rhenani, ana lb duas; Aq. Ruzæ, succi Pomorum silvest. vet. ana lb unam; Aq. Theriacalis, Prophylact. Sylvii, ana uncias quatuor: M.* Then take an Iron Ladle fitted to the Mouth of the Glass, with a long Handle; put into the Ladle half an Ounce of *Sulphur vivum* powder'd, accend with a small Gad of red hot Steel; when lighted, clap it into the Receiver so far, that the Fumes may arise in
the

the middle of the Glas; and the bigger the Glas the better: for the more Fumes it contains, the sooner will your Operation be over. Stop the Mouth with a wet Cloth, that the Steams get not out; when the Fumes have extinguish'd the Flame, let it stand, that the *Oleum Sulphuris* may trickle down the sides of the Glas, and subside upon the *Menstruum*; when the Fumes are settled, and the Glas clear, quickly draw out your Ladle, and repeat the Action till it be well impregnated with strong Volatil Gas. Remember always to keep the mouth of the Glas well stop't with the wet Cloth; otherwise the Gas, which is of a most subtil nature, will evaporat.

A Spoonful of this given once in two or three hours in a proper Julap, dos most wonderfully extinguish Thirst in Fevers, procures Sweat or Urin infallibly, takes off the driness of the Tongue, temperats and cools the over-heated Bile, and procures Rest. Also mix'd with a little Claret, and a Drop or two of Oil of Cinnamon, stops Vomiting to a miracle; and is the best *Peptic* for a weak and decay'd Stomach.

Note, That when the Gas is quite gon, and flown off, the mixture will notwithstanding remain sour, as impregnated with the *Oleum Sulphuris*; but the Gas, which is the better part, will in time be lost (it is so subtil) even almost thro the Pores of the Glas. You must dip the Cork-end of the Bottle in melted Brimstone, and keep it always immerg'd in cold Water.

Water. But the best way to keep it is in small Glasses, and to open no more at a time than you use, it losing its volatil Parts very much every time the Bottle is open'd.

As a further illustration of the Doctrin of Acids, I shall add an Account I receiv'd from Dr. *Oliver*, one of the Physicians of the Fleet, about the use of *Beveridg*.

' *Beveridg* is a prickt, four *Spanish* Wine; one
' Hogshead of it mix'd with three Hogsheads
' of Water, makes the Drink the Sailers are
' allowed to drink *ad libitum*.

' By my Experience in the Fleet, those Ships
' Crews who drank this Acid Liquor for their
' common Drink, were much healthier than
' those who by their obstinacy would not be
' brought to it; as for Example:

' The *Royal Oak* a third Rate, carrying a-
' bout 500 men, whose Ship's Crew, by Ad-
' miral *Nevil's* particular Order, began first to
' drink *Beveridg* (he having had experience of
' it two years in the *Mediterranean* in the *Crown*,
' in all which time he lost not above two men)
' and in three months time I don't remember I
' had three Complaints; tho at the same time,
' in other Ships where they drank no *Beveridg*,
' Fevers and Fluxes were very frequent. Here
' I shall insert one thing worthy of note, That
' the *Royal Oak* wanting *Beveridg*, and being
' oblig'd to drink Water only, in a few days they
' grew very sickly, and lost above 30 men in a
' month; insomuch that the men themselves
' were

‘ were so sensible of their own advantage by
‘ drinking Beveridge, that they heartily desir’d
‘ they might drink nothing else, and beg’d it
‘ wherever they could find it. The like experience I had of the *Eagle, Norfolk*, and several other of our Ships, who were always better in health when they drank Beveridge, than when they drank Water alone, or sound Wine and Water. From these Experiences I advis’d the Captains of each Ship to procure Beveridge as common Drink for the Men, and the Success answer’d my Expectation.

This is an exact Relation as I took it from Dr. *Oliver*’s own mouth.

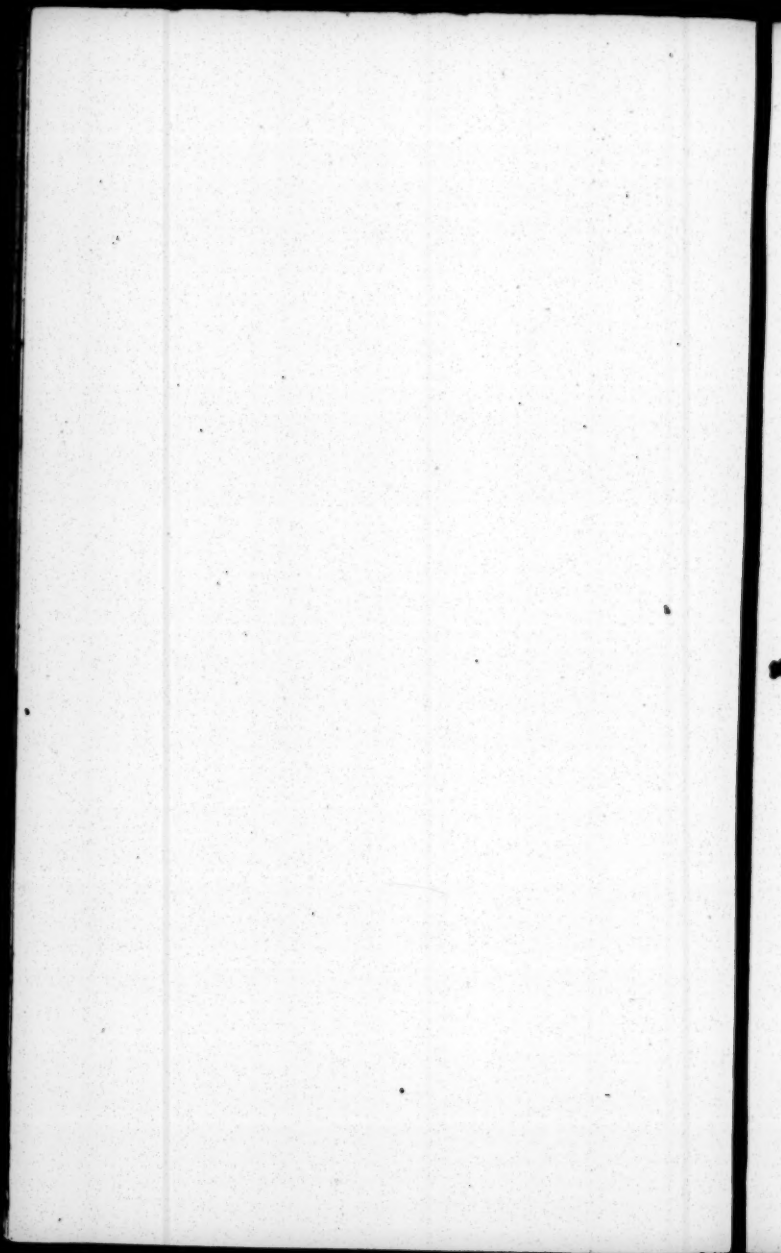
I have more to say, but have already outrun the Bounds of an Appendix; and therefore shall omit what remains till another time.

Advertisement.

WHat Chymical Medicines I prescribe, are faithfully prepar’d by Mr. *Johnson* and *Edwards* in *Fetterlane*, who being men of more than common Integrity, I have thought fit to insert this Advertisement, that people may know where to be well serv’d with Medicines that may answer the Intentions for which I design’d ’em.

John Colbatch.

F I N I S.



A
T R E A T I S E
O F T H E
G O U T :

W H E R I N

Both its C A U S E and C U R E
are demonstrably shewn.

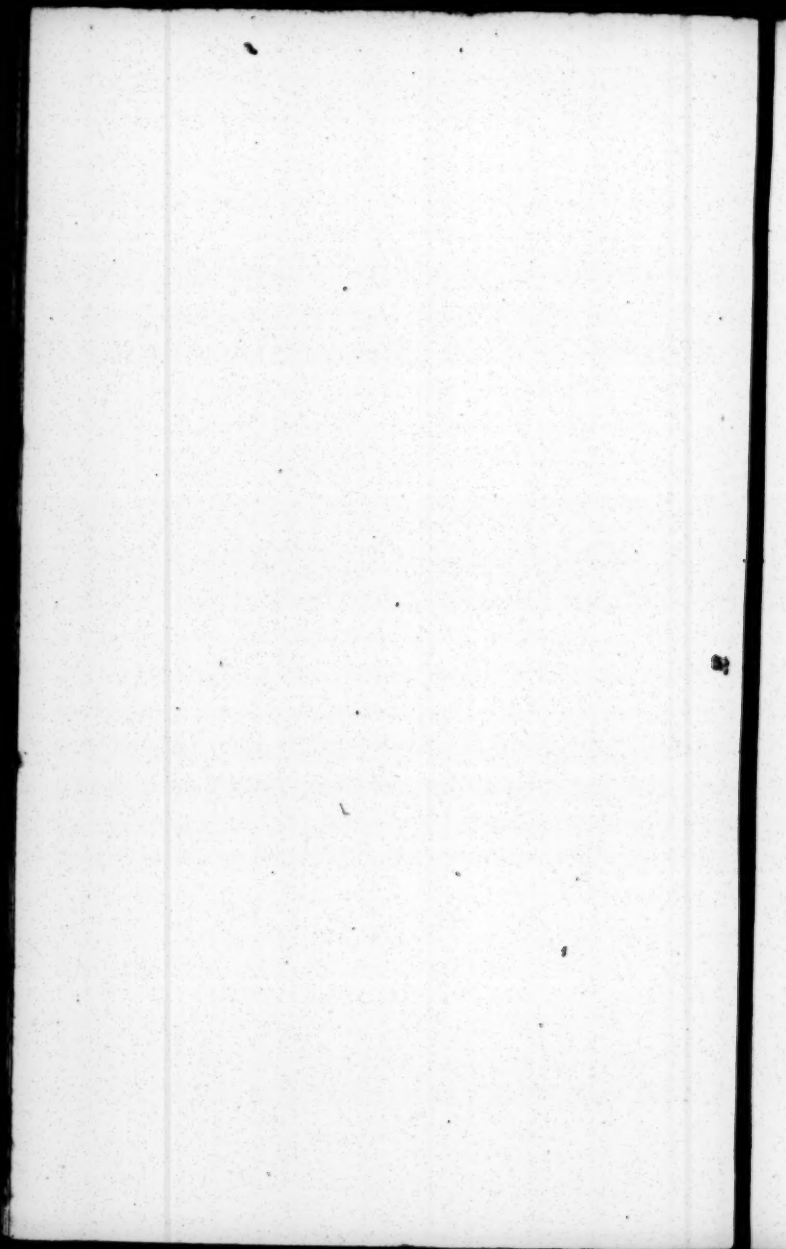
To which are added,

■ Som Medicinal Observations concerning
the Cure of *Fevers*, &c. by the means
of *Acids*.

By J O H N C O L B A T C H, a *Member*
of the *College of Physicians*.

The Second Edition.

L O N D O N,
Printed by J.D. for D.Brown, and A.Bell. 1698.



To the Worthy

Dr. *WILLIAM COLE*,

Fellow of the College of Physicians,
LONDON.

Honored Sir,

MY Love to Truth, and the Good and Welfare of Mankind, have engag'd me in the publishing of the following Piece. I am sure it contains Truth, but the Truths therin contain'd want a much better Champion than my self to assert and defend, against the many and potent Adversaries they are like to encounter. I have therefore presum'd to fix your Name before it, knowing that if you but please to espouse it, my business is don, and the Conquest gain'd; the Reputation you have in the World being sufficient to recommend whatever is

patroniz'd by you. But, Sir, the Doctrin herein advanc'd is not new to you, who have long ago priz'd it, even before I knew you; and the wonderful Success you have had in your Practice, is very well known, more especially in *Worcestershire*, and the adjacent Counties, among which you long liv'd: and to my certain knowledg, when you were about leaving those parts to com to *London*, the people were as much concern'd, as if they had bin losing their Common Deliverer, which indeed you were to them. I should be most ungrateful if I did not own to the World the Advantage I have receiv'd from your intimat Conversation with me, wherin you have always carried your self more like a Father than a common Friend: and from those grave and serious Admonitions receiv'd from you, I have bin stimulated to study Nature to the bottom, that I might arrive at Truth, in which I have bin greatly assisted by you. This Generosity and Kindness I can never forget, as also your great Care of me
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some Years ago, when my Life was despair'd of by all: I am sure without a Miracle, I could not have escap'd the Grave, had it not bin for you; which with all other Kindnesses I shall never cease to acknowledg, and to be

S I R,

Your Faithful and

Obedient Servant,

JOHN COLBATCH.

THE P R E F A C E.

I Have long since promis'd a History of Blood and the other Juices contain'd in a Human Body, both in their natural and morbid States. This is the second Tract that has slip't out since I made that promise, for which I can make a very good Apology. The History of Blood, &c. is a Piece I must fetch out of the Fire, there not being a Page in it that does not cost me near a Day's Labor and Attendance in my Laboratory, to complete; and therefore I can go on but slowly, especially since my Multiplicity of Business requires my being much abroad: Whereas this Tract being compos'd of Observations and Speculations, I have bin able to complete it at those leisure times I have had at Coffee-Houses and other such Places.

Upon several Reviews I find such a Number of Experiments wanting to make my History of Blood complete, that my Business will not permit me to finish it in some Years: nay it is so very chargeable a Work, that 'tis more fit to be carried on at the public Expence of the Nation, than by any one privat Hand; and it would be the Honor of the Nation to encourage it. A Thousand Pounds a Year would defray all the Charge of a Public Laboratory.

boratory; and what would such a small Sum be, tho at this time of Necessity, in comparison of the great Advantage the World would receive by it? I am not ignorant how difficult it is to root an Opinion out of mens Minds, when once receiv'd and establisb'd, tho on never so false a Bottom; to do which the only Method is by plain and obvious Experiments. If People would lay aside their Prejudice, and set themselves to make Experiments, I am sure they would part with their old Notions, and imbrace my new Hypothesis.

Truth for a time may be oppress'd, but finally suppress'd it cannot. Truth is stronger than all Falsbood; it is, as one said, *Temporis Filia*, the Daughter of Time, and will at length prevail: It is Simplex & nuda, sed efficax & magna; simple and naked, but powerful and strong: *Splendet cum obscuratur*, vincit cum opprimitur; It shines when 'tis darken'd, and overcomes when 'tis oppress'd.

I would my self very gladly contribute beyond my Ability towards the setting up of a public Laboratory, by which means I am sure 'tis possible to bring things to a Certainty. What would not People give to save their Lives, and to be freed from Pain? God knows, as the case stands, Physicians can do neither with any sort of Certainty: But by making Multitudes of Experiments, on the Foundation I can easily lay down, the Case may be much alter'd: yet the Burden is too great for any one Man to bear, and were it to be carried on by the Public, it would not be felt.

I have a Multitude of Enemies, who will not stick to accuse and reproach me; and I doubt not but som will presently cry out, That I propose a Public Laboratory, hoping to be the Head and Director of it my self, in order to put part of the Allowance into my own Pocket.

To these Men I shall answer in short, that I have no such Aim, but on the contrary would contribute as much as any man of my Fortune towards the carrying of so great and useful a Work, and would likewise spend all the Time I can spare from my Business in attending upon it, without expecting the least Reward, except the general one that would accrue to the whole Faculty, in bringing our Profession to som sort of Certainty.

We now grope most miserably in the dark; and it grieves me to the soul when I see People in distress, and know not how to help them: If turning over Books would do me any service, I would never cease to do that; but I have too long in vain tried that Method, and till I began to make Experiments, I could act upon no Certainty in any Case; and from the Observations I have made, I am fully satisfied that by numerous Experiments we may arrive at Certainty in the Cure of most Diseases.

I have in my Introduction made use of a familiar and easy Experiment to confirm the Truth of my new Hypothesis; and if any shall take upon them to answer what I have said in this, or any of my former Pieces, I expect they should back their Arguments with Experiments, else I shall take no notice of them.

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I

I have said in my Essay of Alkaly and Acid, that at that time I had not had many Patients troubled with the Gout; neither has the Number of them yet bin very much increased: but from those I have had to do with, I am perfectly satisfied, both as to the Cause and Cure of it; and I doubt not but all who will faithfully make use of the Methods I have laid down, will find them to answer their Intentions; for in between forty and fifty Patients, I have not bin above twice or thrice balk'd in my Expectations, and then I had more reason to attribute it to the Irregularities and Perverseness of the Patients, than the Insufficiency of the Method.

The very Medicins themselves, and the Doses I have prescrib'd, must very frequently be varied according as Peoples Strength and Constitutions vary: and this thing can't be learnt by every new Profelyte in a minute; it is Time and Observation must teach People these things.

The Hypothesis on which I build my Practice, I am sure is true: And if People are once satisfied that the Blood's abounding with Alkalious Particles is the Cause of the Gout and other Distempers, it necessarily follows that Acids are only proper to correct the said Alkaline Particles: But however no Man is obliged to use those Acids only that I prescribe, but is left to his liberty to vary them as he pleases. It would be very arrogant in me, when the Materia Medica is of such vast Extent, magisterially to insist upon the Use of any Set of Medicins; I do not in the least pretend to
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it: but I assert, that the Cause of the Gout is not from the Blood's abounding with Acid, but on the contrary with Alkalious Particles; and therefore if ever we design to attempt the Cure of the said Distemper with any sort of Certainty, it must be by the means of proper Acids, which I my self have hitherto found effectual, and have not the least reason to doubt that I shall continue so to do.

As I have before said, so I continue to do, that there is a vast difference in Acids; some (as Dr. Grew observes) are Acido-Sulphurea, others Sulphureo-Acida, &c. But this Difference in them, and the different Effects they have upon Human Bodies, are only to be known by Time and Observation.

It cannot be supposed that a Physician who was yesterday for Alkalies, can to day so turn his hand, as to use Acids in so proper a manner as they ought to be. Almost all the Productions of the Vegetable and Mineral Kingdoms are Acids, but differently specificated; and according to the specific Difference, so they have a different Operation. I have before in one of my former Pieces observ'd that there are manifest Acids and occult ones, and each of these have different Operations according as they are specificated by Nature; some work by Stool, others by Urin; some are Diuretics, others Diaphoretics; some are Emetics, and others are only Alteratives, have no visible, sensible Operation. Now tho a Man may be convinc'd of the Necessity of the Use of Acids in general, yet the great Variety there is in them, and their different Opera-

Operations upon Human Bodies, are only to be learnt by Time and Observation.

In all Diseases the Physicians have hitherto unanimously agreed that Acids have abounded; and if the Acid has abounded to such a degree, that with their Alkalies they could not conquer it, why then the Patient has died. Well, but suppose this true; How then comes the dead Body to stink so soon? Every body knows that Acids preserve Animal Substances from stinking and Corruption; and therefore if the Juices of the dead Body were full of Acids, it is difficult to conceive how the Body should so soon begin to putrefy; nay it were altogether impossible it should be so: But Alkalies promoting Putrefaction in Animal Substances, from the sudden Putrefaction of dead Bodies, it is natural to infer, that the Juices were too full of Alkalies, which caused first the Disease, then Death, and afterwards the sudden Putrefaction.

It is still thrown in my dish that I have not bin educated at the University, and therefore how came I to be a Physician?

I am not asham'd to own that I have not had University Education, which I account a Misfortune, but yet I have spent as much Money to qualify me for the Practice of Physic, as most Men who have spent their Times in the Universities; I have had ocular Demonstration for my Money, whenas som of our University-Men have had only the fusty Notions of old Aristotle for theirs. I have aim'd at Certainty in the Cure of Diseases, and if I can but once arrive to that
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(which I will never rest till I have don) I care for no more. If we could have a Public Laboratory at the Nation's Expence, I shall hope to see that Matter sooner effected than it is possible to be at the privat Charge of any one Man. It costs the Nation som Hundred Thousands of Pounds a Year in buying Powder and Ball to destroy Mankind (tho in carrying on the most just War that ever was on foot) and why should there not be one Thousand Pounds a Year laid out in carrying on those Experiments that would tend to the saving Mens Lives? And it would be no disparagement to the greatest Men to be Supervisers in a thing of this consequence, to see the Mony faithfully laid out.

The improving the Doctrin of Specific Remedies is what deserves our utmost Care and Diligence; and if any one should be so kind to me as to communicat any thing of that Nature, it shall faithfully be publish'd, with the Person's Name from whom I had it.

The wonderful and astonishing Success I have had in the Cure of Fevers of all sorts by the means of Acids, has induc'd me at the latter end of this Piece to publish som Observations of that nature. And I doubt not but if Acids were once brought in fashion, Fevers would not be accounted such terrible things as they are.

I have not set my Patients Names to my Observations, by reason many of 'em make a Figure in the World, and I fear would not take it well to have their Names appear in print; but if any
shall

shall doubt the Truth of any one of the Relations, I will inform them of the Persons Names, and their places of abode, with the Names of the Apothecaries on whose Files they may see the Prescriptions.

I have made som Reflections upon Physicians in general, but those I hint at are principally Foreners, they generally asserting the Doctrin of Alkalies, tho without the least Reason in the World. I confess there are som London Physicians who have bin very violent against me; but from the major part of the College I have bin treated with the greatest Candor and Civility imaginable: And I verily believe, generally speaking, there are not so Learned a Body of Men in the World; who instead of opposing and oppressing, would give all the Incouragement imaginable to any who shall make new Discoveries, which have any Tendencia to promote the Good and Welfare of Mankind.

I must confess I have bin the warmer in som Expressions, that therby I might exasperat those who are my professed Enemies to convince me of my Errors, if what I have advanced are such; otherwise to confess themselves mistaken.

In the following Treatise of the Gout, I have reserv'd but one Secret, and that is a Medicin obtain'd from the Pyrittis; yet to all who will but give themselves the trouble of nicely inquiring into the said Stone (which to me seems one of the greatest Mysteries in Nature) the said Secret will easily be discover'd.

The Alkalieft, that universal Dissolvent of Helmont and Paracelsus, is a thing that has made

a great Noise in the World; and tho many have bin at vast charge in quest after it, yet I have scarce met with any (except one) in our time, who has bin Master of it. But on som late Experiments made upon the Pyrittis, I am perfectly satisfied that the said noble Menstruum is with little Trouble and Charge to be obtained from this so common, yet most valuable Subject. In convenient season, I will give an account of the Experiments I have made upon it. I have already procur'd a Menstruum from it, that will readily dissolve all the Metals and Minerals I have met with: and the utmost Extent of it I do not yet know, but as soon as I do, the World shall have an account of it.

I have mentioned this for the sake of som honest Virtuosi, who will be very glad to be inform'd of the Subject from whence this noble Menstruum may be obtain'd; and if once it comes to be publicly known, it is impossible to imagin what great Service Mankind will receive by it.

I have, besides my Observations concerning the Cure of Fevers, &c. added to the End of this Piece three or four Letters; one wherof is a Letter I received from Dr. Baynard at the Bath, with an Account of a strange and extraordinary Cure wrought by Bathing in cold Water; another is only the Postscript of a Letter from Mr. Matthews an Apothecary at Ledbury in Herefordshire, wherein he gives me an Account of a Specific in the Small Pox, and a very extraordinary Method for the Cure of Convulsions: The third

is a Letter from an unknown Hand, upon which I have made some Animadversions.

When Sir Richard Tabor first began to use the Cortex Peruvianus for the Cure of Agues, every body cried out against it as the most pernicious Medicin in the World: But by degrees they changed their Tone, and it is now become so extravagantly in vogue, that it is prescribed by some in the Cure of all Diseases, and I believe in a little time will be made use of in Plaisters to cure Corns. By this may be seen the Instability of Human Nature, Men being more governed by Fancy than Reason; that which to day is condemned and exploded, to morrow may be had in the greatest Esteem.

I am morally certain that my new Doctrin of Acids, which at present is so much decried, will in a little time obtain the public Vogue, it carrying a Sufficient Evidence and Demonstration along with it: And I doubt not but some will be so enamored with it, as to use Acids with as much Reason, as others at this time do the Cortex. But the Doctrin of Acids being of that universal Extent, it is almost impossible that any one can do so much Mischief with them, as is now done by the Cortex.

Agues were wont to be accounted Ludibrium Medicorum, by reason no Physician could with Certainty cure them; but at last it evidently appearing that the Cortex would certainly cure them, a great many people immediatly concluded, that it must answer all that the Adepts have said concerning their celebrated Panacea's, in curing all Distempers generally accounted incurable; on which
score,

score, to the no small disgrace of the Practice of Physic, the Cortex has bin so universally prescrib'd, but with so little Success (unless in Agues) that even the common people begin to cry out against, and be afraid of it.

Providence has put me on a piece of Work which is the most ungrateful in the World, viz. To encounter with Prejudices that have bin long rooted in mens Minds; and whoever attempts any such thing, will never fail of being censur'd by many. 'Tis a common Miscarriage (says Malbranch) with all Mankind to be too precipitat in judging; for all Men are obnoxious to Error, and only obnoxious on this Account. But all hasty and rash Judgments are ever consonant to Prejudices; and therefore Authors who oppugn them cannot possibly escape Sentence from all their Judges, who appeal to antient Opinions as the Laws whereby they ought to pronounce. For indeed most Readers are both Judge and Party, in respect to such Authors: their Judges they are, that Quality is incontestable; but they are a Party likewise, when disturb'd by Authors in the possession of their antient Prejudices, for which they have the plea of Prescription, and to which they have bin long accusom'd.

I have heartily endeavor'd to promote the Honor of my Profession, and to inquire after Truth. What I have advanced, I am fully convinced is Truth: But if any one shall by substantial and well grounded Experiments convince me of the contrary, instead of being angry with him, I shall never cease to love and admire him.

The

The INTRODUCTION.

THIS Piece I am satisfied will fall into the hands of a great many Ingenious Gentlemen who are not Physicians, for whom it will be very natural to say, you here pretend to advance a new Hypothesis in opposition to almost all Mankind: and tho you refer us to the analyzing of the Blood by the Fire, for a confirmation of the truth of what you say; yet that is not sufficiently satisfactory to us, by reason we have not an opportunity of making Chymical Experiments, and therefore would be glad of some more familiar Demonstration, whereby we might be satisfied without being put to much trouble.

For the satisfaction of whom, I shall here lay down a Method, and that the very easiest in the World, whereby every man is capable of judging whether my Hypothesis be true or false.

It is well known, even to every Apothecary's Boy, that all *Acids*, such as Oil of *Vitriol*, Oil of *Sulphur per Campanam*, Spirit of *Niter*, Spirit of *Salt*, *Vinegar*, &c. being pour'd upon Syrup of *Violets*, or into a Solution of it, in any aqueous Vehicle, will immediatly turn it from a blue into a very red Color; and as

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the Acid is more or less strong, so will the red Color be of a deeper or paler Dye. On the other hand, all manifest Alkalies, such as the Lixivious Salts; all the volatil Spirits and Salts, such as Spirit and Salt of *Hartshorn*, Spirit and Salt of *Sal Armoniac*, Salt of *Vipers*, &c. will turn Syrup of *Violets*, or a Solution of it, either in Spring-Water, or any other aqueous Vehicle, from a blue into a green Color; and as the Alkaly is more or less strong, so will the green Color be of a paler or deeper Dye.

From the foregoing Experiments it may be naturally infer'd, that if the Serum of the Blood will alter the Color of Syrup of *Violets*, or a Solution of it, from blue to that of Redness, it would then be plain that the said Serum did abound with Acid Particles, by reason that all Acids, not one excepted, do so alter the Color of it. But if, on the other hand, the Serum of the Blood, being mix'd with Syrup of *Violets*, or a Solution of it, instead of changing its Color from blue to red, as Acids do, does, as all other Alkalies, change the blue into a manifest green; I think from thence it may reasonably be infer'd, that it abounds with *Alkalies*: and as it is more or less impregnated with Alkalious Particles, so the result is, either a paler or deeper green.

Now I positively assert, that I never once could find that the Serum of the Blood, either in this case, or any other that I have mention'd,

tion'd, being mix'd with Syrup of *Violets* or a Solution of it, would turn it into any other Color than a green one, as all manifest Alkalies, not one excepted, do; but as it has bin more or less impregnated with the said Particles, so the green Color has bin deeper or paler.

This is so familiar and easy an Experiment, that every one is capable of making it on all occasions, Syrup of *Violets* being every where to be had, and there cannot be the least Fal-lacy or Deceit in it. All manifest Alkalies, whether volatil or fixt, do change the Color of Syrup of *Violets*, or a Solution of it, from a blue one to that of Greenness; *ergo*, if the Serum of the Blood causes the same change in the Color of Syrup of *Violets*, it must certainly abound with *Alkalious* Particles. All manifest *Acids* do change the Color of Syrup of *Violets* from blue to that of Redness: But the Serum of the Blood changes the blue Color into a green one; *ergo* it cannot abound with *Acids*.

This is an easy way of arguing, and the plainest Demonstration in the World. There is no one that labors under a Fit of the *Gout*, or any other Distemper whether Chronical or Acute, but will be glad to lose two or three Ounces of *Blood* (tho there be no absolute necessity for *Phlebotomy*) to make this Experiment, upon which so much depends.

Every Gentleman is able to reason thus with himself: My Physician tells me that my *Blood* abounds with *Acids* (or at least most of the Physicians of our Age do so) and upon that score gives me *Alkalies* to mortify and correct those *Acids* in my *Blood*. But if my Physician should be mistaken, and instead of *Acid* my *Blood* abounds with *Alkalious* Particles; his giving me *Alkalies* must increase the Matter of my Distemper, and instead of doing me service, must do me the greatest prejudice imaginable; besides the great risk I run of losing my Life, which to every man is the valuablest thing in the World. Therefore since I have so fair an Opportunity put into my hands, and by so easy an Experiment am capable of discovering with what Particles my *Blood* abounds, my own Eyes shall judg whether *Acids* or *Alkalies* are to be blam'd; whether this Man's Enemies (no less than almost the whole World, I mean of Physicians) or himself are to be blam'd. If the Blood abounds with *Acids*, he ought to be kickt out of the Commonwealth, for indeavoring to impose upon Mankind: but if on the other hand the Blood abounds with *Alkalious* Particles, he deserves all the Incouragement in the World for discovering to us so useful and necessary a Truth, wherby he exposes himself to the Malice and Rage of so many of the rest of his Profession.

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This Experiment is liable to no Objection that I know of, and by the means of it (I thank God) I can refer my self to every Gentleman, whether the Hypothesis I have advanced be true or false, and I am sure from Gentlemen I shall have Justice. The Physicians in general have indeavored to expose me, but pray why have they don so? because their owning me to be in the right, would be an owning of their own Mistakes. But by this easy Experiment I have appeal'd from them to more just and upright Judges, for which they cannot blame me; neither would I have don it, had not som of them made it their business to preach against me, even in full and open *Coffee-Houses*: therefore Justice to my self, and Charity to Mankind, have oblig'd me thus to plead for Truth, which is not asham'd to appear, tho in the most naked and open Dress.

An Ounce or two of *Blood* is to be spared in any Case; and pray let but People see with what reason *Alkalies* have bin hitherto given in *Fevers*, *Small Pox*, *Rheumatisms*, *Scurvys*, *Leprosies*, *Gouts*, &c. It will plainly appear by this Experiment, that the Blood of such Persons abounds with *Alkalies*; and if so, why should we crowd in more *Alkalies*, unless it were to prolong the Distemper, to increase the number of Fees? People must long since have known the Truth of this *Hypothesis*, or they must not. If they have not known it, then it's plain they have grop'd in the dark,

and have cur'd Diseases with as much certainty as a blind Man can catch a Hare, as the Proverb is, when we speak of any thing very unlikely. If they have known it before, then the giving of *Alkalies* at the rate that has bin don, is a plain Argument that they have not acted like honest Men. But I dare acquit them from this Charge, I do believe they have sworn *in verbo Magistrum*. And because a few Book-learn'd Gentlemen have dreamt that the Blood's abounding with *Acids*, has bin the Cause of Diseases, therefore right or wrong it must be so, tho contrary to the most obvious and plain Experiments. When I appeal to the analyzing of the Blood by the Fire, my Appeal is to Physicians only: and this I have already don, but they have refused to do me Justice; nay instead of doing Justice to Truth and me, many of them have abus'd and reproach'd me in all places, som calling me Fool, others a mad Man, and all for no other reason, than because I have indeavored to advance the Honor and Glory of my Profession, in bringing the Cure of Diseases to som sort of Certainty. Now since Justice has bin refused me by my Brethren, they cannot be angry with me for making my Appeal to those whose Interest it is to do me Justice, and to incourage me in my honest Undertakings.

I am heartily sorry I have bin forc'd to be so very warm; but I doubt not that all the honest Gentlemen of our Profession will forgive

give me, when they find I drive at nothing save the detecting of Errors, and the advancing of Truth. There is no one can charge me with any thing selfish (unless it be to leave a Name to Posterity) for the publication of this piece, and writing in that warm manner I have don, by reason I have reserv'd no one Secret to my self, but discover'd all I know: and if I can cure the *Gout*, others may do it as well as I; it is but changing sides, using proper *Acids* instead of *Alkalies*, and being at a little trouble in making Observations.

I want som University-Glosses to polish over this whole Treatise; but Truth, like a Diamond, will sparkle and shew it self, tho incompast with Pebles: Nay, Truth needs no fine Glosses to put her off, but always appears best in a naked Dress.

I am sorry I am constrain'd to be the Promulger of this new Doctrin, and am obliged to inculcat it in such Terms as look like Self-commendation. But I have bin too long meal-mouth'd, by which means Truth has suffered Damage: My over-modesty has bin the cause that I have bin so oppress'd, nay, indeed almost suppress'd from doing any further good in my Generation. But a constant Series of Success has rais'd me up many Friends to stand by and support me, and I am therby animated to go on in the Work I have so happily begun. Nothing but an extraordinary Providence could have supported me against so many Ene-

mies; as first, all the Surgeons in the World, and afterwards the Physicians: but from the Physicians (especially of this City) I have had by much the fairest Play, and the most civil Treatment; and I must do 'em that Justice, as to say, they are more civil to me every day, for which cause I will do all that lies in my power to serve 'em. And for the Surgeons, I must own I gain Friends among them daily; tho by the means of som of them, I and my Family had like to have bin undon, only for indeavoring to do Mankind service.

The following Treatise of the *Gout* is built upon my Hypothesis of *Alkaly* and *Acid*, on which score I thought it necessary, by way of Introduction, to publish the foregoing easy Experiment, that therby the World might be satisfied of the Truth or Falshood of the Hypothesis.

It is an easy matter for any man to mix a little good *Vinegar* or Juice of *Lemons*, with a Solution of Syrup of *Violets*, and to observe the Change immediatly made in the Color of it; and at the same to mix a little *Serum* of Blood with another Solution of Syrup of *Violets*, and to see what a vastly different Change that makes in the said Solution. By which means he will clearly discern, that the Particles causing those different Changes, must be vastly different. But upon examination of the Change made in the Color of the said Solution by manifest Alkalies, it will appear that

the Particles of them, and the Particles with which the *Serum* of the Blood abounds (especially in the foremention'd Cases) are exactly the same.

Were there any one manifest *Acid* that would not turn a Solution of Syrup of *Violets* from a *blue* Color to a *red* one, or any manifest *Alkaly* that would not turn the said Solution from *blue* to *green*, I should not insist so much on this Experiment as I have don. But since all manifest *Acids* do produce a Redness, and all manifest *Alkalies* a Greenness, I have all the Reason in the World to believe (had I no other cause) that the *Serum* of the Blood abounds with *Alkalious* Particles by reason it never fails of turning the *blue* Solution into *Greenness*, especially in the Cases before-mentioned.

Object. Supposing your *Hypothesis* true, and that your Predecessors have bin mistaken; how coms it to pass that they could ever cure any Disease?

Answer. I own they have bin able to cure some few Diseases, but how they have don it they themselves could never tell. If it be certain (as there is not the least reason of doubting) that the *Blood* in all or most Diseases abounds with *Alkalious* Particles, and at the same time they accounted for the *Symptoms* of Diseases from the Blood's abounding with *Acids*, how is it possible that the Practice built on so false

a Bottom could ever be certain or successful? But they without being at the trouble of analyzing, or nicely inquiring into the Nature of them, have given *Steel, Antimony, &c.* and the several Preparations of them, and by means thereof have cur'd several Diseases; but they have given them as Alkalies, when at the same time they will appear to any inquisitive Person to be Acids. They have also given many of the Productions of the *Vegetable Kingdom*, by the means of which many Distempers have bin cured; but upon an exact Scrutiny it will appear that most *Vegetable* Productions are *Acids*. There is scarce one Plant moderately dried, to free it from the insipid Phlegm with which most Plants abound, that being committed to Distillation *per se* in a proper Vessel, will not afford at least nine parts of *Acid* to one of *Alkaly*; the *volatil* Parts or Salts of Plants being Acids, and the *fix'd* ones Alkalies. Now their giving of these things has stood them in som stead, and cur'd many Distempers by a way of which they were ignorant. The little knowlege we have hitherto had of the true Causes of Diseases was the reason of *Helmont's* expressing himself after that manner, when he said, *Quisque Artificum facit quod promittit, Statuarius nempe Statuam, Calcearius Calceos indubiè parat, solus autem Medicus nil audet ex arte spondere suâ, quia nititur fundamentis incertis, & non nisi per accidens atque dolosè proficiens.*

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That there is a Certainty in all Professions but that of Physic.

The want of taking pains in making Experiments has bin the only cause of building too long the Foundation of our Practice upon so false a Bottom; and I hope what I have said will excite the Physicians of our Age to make such Experiments, that therby we may act upon som sort of Certainty. The Physicians of our Time, more particularly of our own Nation, and among them especially those of our *College*, have made more and greater Discoveries in *Anatomy* than ever were before, I mean in the Anatomy of the solid Parts. But as for the Fluids, those Parts wherein the Cause and Seat of most Diseases lurk, they have in a great measure bin neglected. Yet the *College* abounds with Men of such large Capacities, that if once they set about that noble Work, I doubt not but they will soon perfect it, to the great Satisfaction and Advantage of Mankind.

As I have before said, so I shall now repeat it again that I may not be misunderstood, that tho I commend *Acids* in the Cure of Diseases, yet I do not pretend that any one *Acid* will answer all Intentions, there being a mighty difference in their Operation and Nature. That Acid which will cure an *Acute* Distemper, generally speaking, may not cure a *Chronic* one. I have generally observed that *volatil* Acids are most effectual in *Acute* Distempers, and *fix'd* ones in those Distempers we call
Chronic.

Chronic. But in these things every Man's Practice must be regulated and govern'd by Observations: For as Physic had its Rise and Original from Observation, so I am sure by that alone it is capable of being brought to perfection.

What has bin said concerning the difference of *Acids*, has only relation to particular Practice; and I have mentioned it upon this account, that after People are fully satisfied that the Cause of Diseases dos not procede from the Blood's abounding with Acid Particles, but on the contrary with *Alkalious* ones, they should not from thence infer, that any one *Acid* is sufficient to cure all Diseases: For tho it be certain that the Cause of all Diseases proceeds from *Alkalies*, yet there being a vast difference in them, as they differ, so must the *Acid*, used to mortify and correct the Luxuriant *Alkaly*, differ. There are volatil and fixt *Alkalies*, as well as there are volatil and fixt *Acids*; or at least they are so, according to the receiv'd Notion we have of *Fixity* and *Volatility*.

I have all this while bin talking as a Physician, but not as a Naturalist; for tho I account for the Cause and Cure of Diseases from *Alkaly* and *Acid*, yet I don't pretend to account for all the *Phenomena* of Nature from those two Principles, tho there have bin those who have undertaken so to do, but I conceive have bin very much mistaken. There are many *Phenomena* in Natural Bodies not to be
ac-

accounted for by the mutual Conflict of those two Principles, (if I may so call them) such as *Motion and Rest, Light and Darkeness, Magnetism*, or the Operation of the *Loadstone*, and a great many others, too many here to insert.

I shall finish this Introduction with an exact Copy of a Letter sent me from my worthy Friend Dr. Jones.

Dear Sir,

AS for Acids, Dr. Baynard and your self deserve eternal Praise. I ever had a great Kindness for them, and they will readily cure more Distempers than any other sort of Medicins: They are excellent in the Plague, Spotted Fever, and Small Pox; and in extraordinary pertinacious Hemoragies, with a Febricula, they are instar omnium; and as dangerous as those Distempers are, will hardly fail to cure them if given plentifully. I have had Experience in the three last, from which you may infer their Prevalency in the Plague; but I do not speak it merely upon that Inference, but the several credible Accounts I have had of their use to prevent and cure the Plague. The second Year of my Practice I cured about thirty of Autumnal Fevers by the plentiful use of Oil of Vitriol. I find them the adequate Cure in all Cases wherein the Urin is Lixivial, all Putrefactions, all Scurvies wherein the Gums rot, all Cases wherein the Ordure or Urin are of a very ill scent, Cholera

lera Morbus, Jaundice, Stoppage of Urin, soporose Affections: in these last Cases they exceed all things, as they also do in Deliquiums; all dangerous Effects of Opium, of which they are the true Correctors, Opium relaxing all the Parts, and they contracting them; all irregular Heats of Feet, Hands, &c. Vomitings, want of Appetite; Morphew, internally and externally used; Bitings of venomous Creatures; tough Phlegm; hard Tumors, unless schirrous; Drunkenness; Diseases of the Mouth that have any Stench or Putrefaction; excellent against all Norcottic Poisons whatsoever, to smell, take inwardly, or dip in them, which is best; nay and exceeds all things that the World affords if they be very cold; Syncopes, too much Sweating, Sunburnt outwardly, Thirst, Furor Uterinus, Priapismus, pissing bloody Urin from Putrefaction, as in the Small Pox, and when you cannot attribute it to any other Cause than Putrefaction: Miscarriages, Itch inward and outward, Ringworm, Tettar: To preserve from all Putrefaction both in Man and Beast: Fœtor Alarum, Pollutio Nocturna, Gonorrhœa simplex; Pedor, or stink of the Feet, &c.

In all these Cases you may very much depend upon them. Make what use you please of this Catalogue, to print, or what you will; it is intended for your Service.

Your affectionat Lover,

J. JONES.

I still keep the Original Letter by me : And the Author of it is a Man of that Truth and Candor, that he would not have wrote me such a Letter, and given me a liberty of publishing it, if he had not bin well satisfied and assured of the Truth of what he has said : Nay, the Clearness of his Reason is such, that I never knew him mention any thing he was not able fully to demonstrat.

Of

Of the Gout.

C H A P. I.

THE Gout is called *Articularis Morbus*, because it generally affects som of the Joints; and according to the Name of the Joints affected, it has a different Denomination: when it affects the Joints of the Hands or Fingers, it is called *Chiragra*; when it affects the Hip, it is called *Sciatica*; when it affects the Knees, it is called *Gonogra*; when the Feet, *Podagra*; when the Ancles, *Talia*, or *Talla*, &c.

Tho the Gout has so many different Names given it, yet I don't at all apprehend but the Distemper is exactly the same, and that the different Names procede only from the difference of the Part affected.

This Distemper is also by som called *Dominus Morborum* & *Morbus Dominorum*, by reason it is one of the most tyrannical Distempers, and few but Gentlemen and those of the best Rank are troubled with it. It sometimes exercises it self with so much Cruelty and Tyranny, that those who are troubled with it, are almost ready to lay violent hands upon themselves.

The

The *Gout* may be divided into two Species, viz. that which is *Adventitious*, and that which is *Hereditary*: and of the two that which is hereditary, is by much the most difficult to be cured, and generally rages with the greatest violence.

The Antients did generally reckon that which we call a *Rheumatism* as a species of the *Gout*, calling it *Arthritis Vaga*, or the *Wandering Gout*. But herein I apprehend they were much mistaken, a *Rheumatism* being vastly different from the *Gout*, as will be shewn in its proper place; tho the Method of Cure is much the same.

Great have bin the Disputes about the original Source or Fountain of this Distemper. Som will have the *Brain* to be the principal Part concern'd, and that from it the morbid Matter is translated to the part affected. Others charge the *Liver*, and som the *Stomach*, as *Helmont*, &c. But for my part I charge the whole Mass of the Blood, and all the Juices, and not any particular part; the Reasons wherof will appear hereafter.

The *Gout* is an Index of it self: no one that feels the pain, but is capable of discerning the difference between it and all other Pains; the Pain of the *Gout* being a deep, distending, piercing, throbbing, continual and bitter Pain.

I apprehend the Parts most immediatly affected to be the Glandules next adjoining to

the *Periostrum*, which is one of the most sensible Membranes in a man's Body.

I cannot agree with those Gentlemen who will have all Pain to proceed from a Solution of Continuity, which in plain English is either a Wound or Ulcer: now for my part I can't see why we should not be made sensible of any thing that injures us, which whatsoever causes Pain does, without destroying the integrity of the Parts; and 'tis plain, whatever causes a Solution of Unity must destroy the integrity of them. Father *Malbranch* tells us that our Senses are given us to guard our selves from Injuries, and that they never fail to answer the end for which they were given: They are never guilty of deceiving us; as for instance, our *Taste* (a state of Health suppos'd) never tells us that *Bitter* is *Sweet*, or *Sweet* *Bitter*; our *Smells* never fail of distinguishing agreeable from hurtful *Odors*; our *Feeling* never fails of distinguishing *Heat* from *Cold*, and *Cold* from *Heat*, and so on: and all these things proceed from a placid Vellication of the Membranes. *Pain* proceeds from a contraction of the Fibers, and *Pleasure* from a placid relaxation of them; which being granted, it necessarily follows, that a Solution of the Unity of the Parts should rather produce Pleasure than Pain, by reason that when the Fibers are broken, they are not so able to contract themselves as when they are whole.

I don't from this argue, that there is no Pain procedes from a Solution of Unity, but that there may be very violent Pains where the Union of the Parts is preserv'd intire: As for instance, a Blow with a blunt thing upon any Part, which only bruises it, will occasion greater Pain than if the same Part were cut with a sharp Instrument, tho the one only compresses the Parts, and the other divides them asunder, and so makes a perfect Solution of Unity. And I lay it down as a positive Assertion, that all Pain procedes from a Stagnation of the Juices, which causes a Compression of the Membranes; and as the Stagnation and Compression are greater or lesser, so the Pain is: But the stagnated Matter, according as it is more or less *acrimonious*, so it causes different sorts of Pain. *Pain* also is different in different parts, according to the difference of the Membranes affected; but there is no Pain in any part without Stagnation.

People have more reason to believe there is a Solution of Unity in the Parts affected with the Palsy, where there is a visible consumption and decay, and the Part perfectly wasted; but instead of Pain in such parts, they are altogether void of Sensation.

My business is not now to treat of *Wounds*, and therefore I shall not trouble my self to give any account of the Pain which attends them, but only take notice, that it is not from the

division of the Parts, but from the obstruction of the motion of the Juices in the Edges of them, which occasions the Pain that attends them; and when once the swelling and inflammation of the Parts adjacent are taken away, the Pain ceases.

Those who are most subject to this Distemper, are such as live quietly and luxuriously; and for want of proper Exercise, Nature does not sufficiently discharge the superfluous, excrementitious Juices by the Emunctories design'd for that purpose. It frequently attends those who have bin once poor, and whose Fortune afterwards has bin greatly mended; by which means the manner of their feeding being alter'd, and changing a spare Diet for a more luxurious way of living, they frequently grow fat, and for want of good Digestion and proper Evacuations greatly abound with gross and viscous Humors. Women are not so subject to this Distemper as Men, especially if they have their Courses regularly, by means of which Evacuation they are freed from many Distempers: but the stopping of that Evacuation, or any too great Discharges that way, is the only cause of many Distempers attending that Sex.

The Gout may in-general be defin'd to be *a Pain of the Joints and Parts adjacent, occasion'd from an extravasated Alkaline Humor which irritates the Membranes of the Joints, and Parts adjacent.*

To

To prove that the whole Mass of *Blood*, and all the fluid Parts, are originally concern'd in this Distemper, and not any one particular Part, as the *Head, Liver, Stomach, &c.* the following Arguments will evince.

1. From the general Disorders that precede a Fit.

2. From the Condition of the Blood and Juices during the time of the Fit. Under which Head I shall make it appear that the Blood and Juices during the Fit abound not with *Acid* but *Alkalious* Particles.

(1.) Before people are seized with a Fit of the Gout, they have som general Disorders; and according as their Constitutions are different, so are the Disorders that attend them at this time. But very few (let their Constitutions be what they will) have a Fit of the Gout, but they have something of a *Fever* before it. Now *Acids* being the only things that hinder *Fermentations*, and prevent *Fevers*, it is impossible they should be in the fault; but *Alkalies* exciting *Fermentations*, and by consequence causing *Fevers*, are necessarily here to be blam'd: and were timely care taken to correct the luxuriant alkalious Particles, I am sure it would not be difficult to prevent a Fit; and there is scarce any one that has a Fit of the Gout, but has timely notice to prevent it in case they will take a true Method.

Sometimes the Fits of this Distemper are very regular, returning at certain periods of

time; at other times very uncertain: but that for the most part proceeds from an irregular way of living, and the debility of Nature.

Dr. Sydenham, that honest and fair Man, to whom all the World is beholden for his ingenious and candid way of writing, in his *Traité de Podagra*, says thus: *Quoties itaque regularis est Podagra, hoc ferè modo Ægrum aggreditur, &c.* As oft as the Gout is regular, it attacks people in this manner; at the latter end of *January*, or the beginning of *February*, it all on a sudden invades them, having no other knowledge of it, but that they find a Crudity and Rawness of their Stomachs for som weeks before, with a windy sort of Distention and heaviness of the Body; which Symtoms every day increase, till at last the Tyrant all at once appears: a few days before which there is a sort of *Drowsiness*, and as it were a descent of Winds thro the fleshy parts of the Thighs, with a *spasmodic* Affection: and the day before the Fit, the Appetit is more voracious than at other times, but not natural. All which Symtoms (except the last, and that I have particularly spoken of in the *Appendix* to my Essay of *Alkaly and Acid*) procede from the abundance of Alkalious Particles, as will particularly be made appear.

The Patient gos tolerably well to bed, but about the second hour after midnight is excited with most violent Pain, for the most part affecting the great To, sometimes the Heel, and

at other times the Ankle; presently there follows a Rigor and Horror, and something of a Fever. Thus much for the Symtoms preceding a *Regular Fit*; next follow the Symtoms preceding those Fits called *irregular* ones.

Whereas in regular Fits the Feet only are infested, they seeming to be the most genuin Seat for the morbid Matter, as indeed the Word generally used for this Distemper seems to intimat, *Podagra*, being *Pedis Captura*, a Distemper of the Feet; so when it affects any other Part, it is a most certain sign that the Method of the Distemper is inverted, or that the Parts have lost their Vigor: But as it too frequently happens, either from the use of improper Medicins, or som other Irregularities, it changes its Course, and sometimes affects one part, sometimes another, as the *Hands, Wrists, Knees, &c.* sometimes it affects the Fingers, and by degrees makes them useless; and in som time there are Nodes produced, containing in them a Substance much like *Chalk* or *Crabs Eyes*, which is seldom generated in any other part but the Fingers or Toes, where the Vessels being small, this gross Alkalious Matter is not capable of being absorbed by the small *Capillary* Vessels, and so by long lying is converted into the foresaid Substance: which being nothing but the morbid Matter indurated, is a clear Demonstration of the *Hypothesis* I have advanced, and am indeavoring to confirm. The indurated

morbific Matter being a plain known *Alkaly*, it is impossible the Distemper can procede from *Acids*: Sometimes the morbific Matter being lodg'd upon the Wrist, causes large white Swellings, I have seen them as big as a large Egg: [and sometimes upon the Joints of the *Fingers*, I having seen all the Joints of both Hands in som persons swel'd to such a degree, that it is almost incredible; and of all Swellings, these white ones are the most difficult to be brought down.] When it affects the *Thighs* (which is very seldom) it causes a sense as if a great Weight were hang'd upon the part; but the Vessels being great, the Obstruction is not so, and so des not excite very great pain in that part. But when it affects the *Knees*, it causes the most exquisit Torments, and fixes the Patient to the place where he lies as if he were fastned with a Nail, he not being able to move himself at all: yet the Pain is not altogether so urgent during the whole Fit, so the Patient keeps but the Part affected quiet. [When it affects the *Shoulder* also, it puts the Patient into most miserable Pain, and frequently lasts longer than in any other part besides, unless it be the *Heel*, from which part I have sometimes met with a great deal of difficulty in removing it.]

The *Regular Gout* (if so Tyrannical a Distemper can at all deserve that Name) seldom invades people but about the latter end of Winter; and after it has play'd its pranks for two

or three months at furthest, it civilly gos off, and leavesthe Patient in a good state of Health: But after it becoms irregular, som people are never free the whole Year, unless in the two or three very hot months, and have frequently the most sharp and violent Pains for fourteen days or more together, without the least remission, attended with Sickness, and very frequently an almost total loss of Appetit; which cannot procede from an abundance of Acids, for that excites Appetit, and helps Digestion. At those Intervals when the Distemper is abated and off, they have generally a great stiffness and disorder in those Joints that have bin affected, I mean in *antiquated, irregular* Gouts; for after the Fit of a *regular* Gout, there is no such thing. This is to be observ'd that the more years people have labored under this Distemper, the less violent is their Pain; but then they are generally attended with a greater Sickness and Disorder in their Stomachs: nay, somtimes the morbidic matter is wholly thrown into the Stomach and Guts, which are membranous parts; and when it is so, it seldom fails of proving fatal, [unless the Symtoms are suddenly taken off by proper Remedies.] If it be any satisfaction to men in misery to be accounted among the Number of those who are men of Sense, all people who are afflicted with the *Gout* may claim that Privilege: For, as to my own part, I never yet met with one Blockhead or Fool
ever

ever troubled with it, which is taken notice of by almost all that have written upon this Subject.

The Blood^s abounding with too great a quantity of Alkalious Particles, is the general Cause of this Distemper, in order to which there are several other things that concur: As,

First; Too moist a state of Air, which hinders free Transpiration, and wherby the Excrementitious Alkaline Particles, which should be thrown out by the *cutaneous* Pores, are retained; and the quantity of Excrementitious Alkaly, which is thrown out that way, those Passages being free, is not inconsiderable; which Particles being retained in the Blood, do greatly contribute to the raising of this unruly Devil, which the wisest Magicians hitherto have not bin able to lay, and which has bin the occasion of this Saying,

Solvere nodosam nescit Medicina Podagram.

And this is one of those Devils which is not to be cast out but by Prayer and Fasting; that is, Nature without help, is not able to get the mastery of it, or to rid her self from it. But alas, for want of a true knowledge of the general Cause of this Distemper, Nature has hitherto rather bin oppressed than assisted; this *Hydra* not being to be overcome but by pouring in fresh Battalions arm'd with pointed Spears

Spears and Lances upon him, viz. by giving large quantities of Medicins, whose Particles are pointed, and thereby made capable of dividing the gross obstructing Matter, and turning it into a state of Fluidity.

Secondly; The use of many sorts of Meat, and too great Ingurgitation thereof; for by that means the Stomach is oppress'd, and Digestion hindred; by which means the whole Oeconomy of the Body is put out of order, and a Foundation laid for more Distempers than that of the *Gout* only; the Stomach being to the Body as the Root to the Tree, or a Spring-head to a River: for if the Spring or Fountain-head be muddy, or troubled, the Streams that come from it must be so also; if the Root of the Tree be vitiated, the Branches cannot be supplied as they ought. Good Digestion makes good Chyle, and good Chyle makes good Blood; but if the Chyle be vitiated by ill Digestion, the Blood made by it must be vitiated also, and consequently must be the cause of bringing those Distempers upon people to which they are subject. For as my Predecessors have accounted for the general Cause of all Diseases from too great an *Acidity* of the Blood and Juices, and according to the difference in the Body and Part affected, the Distemper has differ'd; so I, who account for the general Cause of all Diseases from the abundance of *Alkalious* Particles, don't think I do amiss in following the Footsteps

steps of my great Predecessors in this, that the same Alkaly, which thrown upon the Joints causes the *Gout*, being thrown upon the Lungs may cause a *Phthisis* or *Consumption*; and upon the Membranes of the Brain, may cause a Stagnation and Extravasation of the Blood, and occasion an Apoplexy, &c.

Thirdly; The often use of strong Wines, especially fasting, by which means the Blood and Juices being impregnated with the Spirits of the said Wine, these Spirits meeting with the volatil Alkalious Salt of the Blood, by a mutual conjunction or combination of them, are turn'd into that Substance (or somewhat like it) which *Helmont* calls his *Offa Alba*; which coagulated Substance not being capable of moving with the Blood and Juices thro the small Vessels, causes Obstructions: and that the Gout proceeds from obstructing, corrosive Particles, I believe no one doubts. Likewise the said vinous Spirits acting upon the Nerves, do cause them to lose their Tensivity, I mean when the said Liquors are drunk in too large quantities, and often repeated: for a small quantity of Wine drank at convenient Seasons dos raise the Spirits, and invigorate the Nerves; but a Bow overbent becoms good for nothing: and any thing else that is of a springy nature being overprest, makes them lose their Springiness altogether; so the Nerves being over excited by large quantities of Wine, at last lose their Tone, and instead of

of extended Cords they becom lax, and by that means are made uncapable of exciting or actuating the Membranes, the sensible Parts, which are made up of nothing else but nervous *Fibrilla*; so that gross Particles being thrown upon them, they are made uncapable of freeing themselves from the said Particles, and all because they have lost their wonted Vigor. The whole *Oeconomia Animalis* is perform'd by Relaxation and Contraction, as will be shewn more at large in its proper place; and when the Parts, *viz.* the nervous Fibers, have lost their Tone, they are not able to disburden themselves of the excrementitious or mor-bific Particles cast upon them: whereas when they are in a due state of Tension, if any heterogeneous Particles are cast upon them, they readily throw them off; and there is nothing so much destroys the Tensify of the Nerves as hard Drinking: wherefore it was well said by a certain Poet,

Una Salus sanis, nullam potare Salutem.

*He that in Health would long remain,
From drinking Healths he must refrain.*

Fourthly; The immoderat use of Venereal Exercises, which spends the Spirits, and decays natural Heat, and so procures a Weakness to all the parts of the Body. Every man experiences, that by a few Venereal Imbraces his
Spirits

Spirits becom more languid, and his Body more weakned, than by the loss of a large quantity of Blood. It has bin observ'd, and is what I believe generally holds true, that few or none are ever troubled with the Gout before Marriage, or the use of Venery; and yet the *Roman* Priests of all sorts both Regular and Secular, who profess Chastity and abjure Matrimony, are as frequently troubled with this Distemper as any people in the world. It is a vain thing to suppose, as som have don, that the Reason why Children have not the Gout as well as grown People, is, because the Juices of their Bodies are not so very acrid, whenas we frequently see them as much or more subject to *scrophulous* Tumors, &c. than grown Persons are, which procedes from nothing else but an extraordinary Acrimony of the Juices. There is nothing puts the Spirits into that violent Motion, and exagitats them so much as Venereal Exercises; and whatever violently exagitats the Spirits, must weaken the Nerves, and make them unfit to perform their Offices, which is to contract the Parts, and inable them to throw off whatever is noxious or hurtful to them: wheras, when they have lost their Tone, they are unfit for that Office. There is a twofold Motion in mens Bodies, *viz.* a voluntary and involuntary one; the voluntary one is when we move all or any particular part at our own pleasure: and there is no one that I know denies but all
Animal

Animal Motion is perform'd by the mediation of the Nerves. Involuntary Motion is that which is perform'd whether we will or not, being executed as well when we are sleeping as waking; such is the Motion of the Lungs, Heart, Arteries, &c. Now one great End of involuntary Motion is, that the Parts being contracted or squeez'd together, they may throw off all noxious, excrementitious Particles by Pores prepar'd for that purpose, which cannot be rightly don when the Parts have lost their Springiness and Tone.

Fifthly; Overmuch Sleep, especially in the Afternoon, and that immediatly after Dinner. It is generally allow'd and made appear by several Great Men, but more particularly by my worthy Friend Dr. Cole, that there is a universal Relaxation of the Nerves and nervous Fibers during the time of Sleep, but more especially of those Parts not made use of for involuntary Motion; and the Parts used for involuntary Motion have not that occasion for it as the other Parts have, they wanting but a small supply of nutritious Particles in comparison of the others. Now during the time of the relaxation of the Parts they receive the Matter for their Nutrition into them, as that excellent Person well observes; but the said Matter cannot be applied to them till Sleep is over, and the Parts com to a state of Contraction; by means of which Contraction, so much as is necessary is applied to them, what is superfluous is taken

taken or prest into the receptory Glands, and carried again into the Blood-vessels by the *Lymphaducts*, and the excrementitious Parts discharged by the excretory Glands. Thus it is in a state of Health, and that it should be so is absolutely necessary; for while we are awake there are vast wastes and loss of Substance, as I have observ'd *Nov. Lum. Chyr.* pag. . and that this waste should be supplied is not only convenient, but absolutely necessary, which cannot be more commodiously don than while we are asleep: the Nerves and nervous Fibers being lax, the Parts are more capable of admitting the nutritious Particles into them than at any other time. That there is a universal Relaxation of all the Parts during the time we sleep, is past dispute; and that it should be so is absolutely necessary: for all the Nerves and nervous Fibers while we are awake (a state of Health being supposed) are kept in a full Extension, like a bent Bow, or extended Fiddlestrings, which, if their Extension be overlong continued, do thereby become useless: therefore to preserve and keep them fit for use, it is found necessary to ease them of their Tension sometimes, that thereby they may be serviceable upon occasion. Thus it is with the Nerves, which being always extended when we are awake, it is necessary they should be relax'd during the time of Sleep, that thereby being supplied with fresh Spirits, they may be fitted for the Morrow's Action.

But as Sleep moderately used affords this great Convenience, so by peoples overmuch indulging themselves in it, it proves very detrimental: by continuing the Nerves and Fibers too long in a state of Laxity, they receive too great a quantity of Humidity into them, and thereby become unfit for Action, not being able to throw off the excrementitious Juices, nor apply the nutritious ones as they ought to be; which is the reason that those who sleep much, especially after Dinner, are generally gross and unweildy, the Fibers being clog'd, and so incapable of rightly disposing the Juices that are lodg'd upon or in them, or performing any other animal Offices as they ought. It is commonly seen that those who much indulge themselves in sleeping, are full of Juices, and generally lazy; whereas such as content themselves with a moderat quantity of Sleep are vegete and spritely, and fit for all manner of Undertakings. Tho I allow Nutrition to be perform'd while we are asleep, yet I believe the quite contrary as to Digestion of solid Food in the Stomach, that not being to be don but when the Fibers of the Stomach are so vigorous and tite, as to be able to squeeze out the Chyle into the small Guts as fast as it is made; none of the Juices of our Bodies being any other way made than by Comminution and Compression; or Mixture, of which Office the Stomach is altogether incapable when we are asleep: And all People (very few except-
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taken or prest into the receptory Glands, and carried again into the Blood-vessels by the *Lymphaducts*, and the excrementitious Parts discharged by the excretory Glands. Thus it is in a state of Health, and that it should be so is absolutely necessary; for while we are awake there are vast wastes and loss of Substance, as I have observ'd *Nov. Lum. Chyr.* pag. . and that this waste should be supplied is not only convenient, but absolutely necessary, which cannot be more commodiously don than while we are asleep: the Nerves and nervous Fibers being lax, the Parts are more capable of admitting the nutritious Particles into them than at any other time. That there is a universal Relaxation of all the Parts during the time we sleep, is past dispute; and that it should be so is absolutely necessary: for all the Nerves and nervous Fibers while we are awake (a state of Health being supposed) are kept in a full Extension, like a bent Bow, or extended Fiddlestrings, which, if their Extension be overlong continued, do thereby become useles: therefore to preserve and keep them fit for use, it is found necessary to ease them of their Tension sometimes, that thereby they may be serviceable upon occasion. Thus it is with the Nerves, which being always extended when we are awake, it is necessary they should be relax'd during the time of Sleep, that thereby being supplied with fresh Spirits, they may be fitted for the Morrow's Action.

But as Sleep moderately used affords this great Convenience, so by ~~peoples~~ overmuch indulging themselves in it, it proves very detrimental: by continuing the Nerves and Fibers too long in a state of Laxity, they receive too great a quantity of Humidity into them, and thereby becom unfit for Action, not being able to throw off the excrementitious Juices, nor apply the nutritious ones as they ought to be; which is the reason that those who sleep much, especially after Dinner, are generally gross and unweildy, the Fibers being clog'd, and so incapable of rightly disposing the Juices that are lodg'd upon or in them, or performing any other animal Offices as they ought. It is commonly seen that those who much indulge themselves in sleeping, are full of Juices, and generally lazy; whereas such as content themselves with a moderat quantity of Sleep are vegete and spritely, and fit for all manner of Undertakings. Tho I allow Nutrition to be perform'd while we are asleep, yet I believe the quite contrary as to Digestion of solid Food in the Stomach, that not being to be don but when the Fibers of the Stomach are so vigorous and tite, as to be able to squeeze out the Chyle into the small Guts as fast as it is made; none of the Juices of our Bodies being any other way made than by Comminution and Compression; or Mixture, of which Office the Stomach is altogeth^r incapable when we are asleep: ~~And~~ all People (very few except-
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ed) who eat Suppers late at night, find a Load of undigested Matter upon their Stomach next morning; and, as I said before, Digestion being hindered, the Chyle must be depraved, and by consequence all the other Juices. As eating late Suppers is very pernicious, of consequence sleeping after Dinner must have the same effect, it being only from peoples going to bed, and sleeping after supper, which makes that hurtful: for would they use as much Exercise, and continue as long from Sleep after Supper as Dinner, they would be both of equal advantage; but since Man can't live without sleeping, and Night being the most proper time for it, all things being quiet and still at that time, it is necessary that People should eat their full Meals at such times as the Stomach is most capable of digesting them. And we generally find that those who most indulge themselves with Sleep, especially after Meat, tho they have gross corpulent Bodies, yet they are generally subject to Diseases, and are seldom long-liv'd, which argues that Digestion is not well perform'd.

Sixthly; Overmuch Watching, and Fasting, and Study, Sorrow and Care, and much Labor, because they spend the Body, and cause a weakness in the Parts therof, may occasion the Gout. It is a common Maxim, that *Omne Nimum vertitur in Vitium*; so the Nerves and nervous Fibers being kept in a state of Laxity too long, by being overcharg'd with slimy moist

moist Particles, are hardly to be brought to a due state of tensity again : and being too long kept in a state of Extension, by that means lose their Tone, which is not again to be restor'd but with the greatest difficulty imaginable. A Bow being kept long bent, or Fiddlestrings left extended for any long time, do both of them become useleſs : So it is with the Nerves and the Offsprings of them ; the Fibers, which are the only Instruments of animal Motion, whether natural or voluntary, when kept too long extended, the Spirits being exhausted by that means, become flaccid, and so incapable of throwing off the excrementitious Alkalious Particles, (all the Excrements of Man's Body being *Alkalious*) whereby Obstructions are caused, and by that means Pain either greater or less according as the Obstruction is, or the Particles more or less acrid.

Seventhly ; Overmuch Rest and Ease do greatly contribute to the producing of this Distemper, by reason that for want of due Exercise many Superfluities are retain'd in the Body, which by moderat Exercise would be discharg'd. Moderat Exercise puts the Blood and Juices into a brisk and nimble Motion, by which means Transpiration is greatly promoted ; and Transpiration being one of the greatest and most advantageous Evacuations, that being hindred, or not sufficiently promoted, must be of universal disadvantage to, the whole Body.

Eighthly; Sudden Rest, and exposing the Body to the Air in cold or moist Seasons after any violent Exercise, is as great a Cause of this Distemper, and many others, as any one thing besides. All sorts of Exercise, as before observ'd, do set the Blood and Juices into brisk Motion; which Motion being suddenly check'd, and Transpiration hindred on a sudden, the excrementitious Particles, which would otherwise have bin carried off that way, are thrown upon som of the Parts, which by causing Obstructions, and vellicating the Membranes, promote pain in the highest degree.

Ninthly; The total leaving off any accustomed Exercise is very pernicious, for the Reasons before-mentioned.

Tenthly; From the keeping of the Feet either too hot or too cold. The Gout is, by way of eminency, generally called *Podagra*, *quia Pedum usum impedit*, because it takes away the use of the Feet, which are more generally affected than any other Part. Now Cold keeps the Nerves in a state of Contraction or Extension, and Heat relaxes them; and being either contracted or relaxed too long, for the Reasons before-mentioned, they lose their Springiness, and therby are not capable of throwing off the excrementitious Alkaline Particles, of which all the Parts are full: and the Nerves of the Feet being disorder'd, having lost their Tone, a greater Flux of Humors is thrown upon them than any other Part, which

which makes the Gout there more tormenting and troublesome than in any other Part. It is that Flux of Humors to the lower Parts, which makes the healing of either Wounds or Ulcers in the Legs or Feet much more troublesome and difficult, than in any of the superior Parts. So it is in the Gout, when the *Feet* or *Ankles*, but especially the *Heels*, are affected, a Fit is much more difficult to be taken off, than from any other Part. So likewise when the Tone of that Part is any way injur'd, it much sooner receives morbid Impressions than any Part besides.

Eleventhly; From the stopping of any usual Evacuation, as the monthly Courses in Women, and a Flux of the Hemorrhoids in Men, which I have frequently known to keep their certain Periods to a day; by means of which Obstruction the excrementitious Matter wanting its usual Vent, is transmitted to some other part of the Body. And according to the nature of the Part on which it is thrown, it exercises its Tyranny. If there be a Laxity in any of the Joints, it is thrown there, and so causes the Gout, and other different Diseases according to the Nature of the Part on which it comes.

Having somewhat distinctly given an account of all those things which either cause the Gout at the beginning, or accelerate a Fit in those who have already received the morbid Impression, and also of the general Dis-

orders that precede a Fit, I shall now com to my Second Head, which is,

Secondly, That the Blood and Juices during the time of the Fit abound not with *Acid* Particles, but on the contrary with *Alkalious* ones.

I hate Tautologies, and therefore shall not here trouble you with any Experiments made upon Gouty Peoples Blood, but refer you to my *History of Human Blood*, [a small Specimen of which you have in my first Answer to Dr. Tuthil] where you will find several Experiments ranged in such Order, and References made to the Substances obtained from the Blood of People in a state of Health, with the great disproportion between the quantity of Alkaly obtain'd from the one and the other, that it will raise your Admiration to see how we have grop'd in the dark for want of making Experiments. I have often found the quantity of Alkaly obtained from the Blood of People laboring under a Fit of the Gout, to excede that obtainable from People in a state of Health, frequently as six to four, or therabouts, somtimes as five and a half to four, at other times as five to four; the Quantity of *Alkaly*, in which the Blood of those laboring under a Fit of the Gout, exceeds that of healthy People, differing as the Fit is more or less violent.

Besides the necessary Conclusions to be made from reiterated Experiments, of which, as I said

said before, you will find many ranged in their proper places, which Experiments themselves are as clear a demonstration of the Truth of my Hypothesis, as is given by the greatest Mathematicians to prove any of their Propositions; and indeed we have no other way of arriving at Truth than by making Experiments; for a man ought not to draw a Conclusion from any one Experiment, but where Multitudes do exactly agree with little or no variation, one may without presumption draw a Conclusion from 'em, tho it may thwart the commonly received Opinions: I say, besides the necessary Conclusions to be made from reiterated Experiments, of distilling or analyzing by Fire the Blood of such as labor under a Fit of the Gout, from the generating of the *chalky* Substance contained in the *Nodes* during that time, which *Nodes* and chalky Substance are at no other time produced than in the very time of a Fit; it plainly appears that the Blood and Juices do more abound with Alkalious Substances than at other times; that is, the Blood and Juices of one laboring under a Fit of the Gout do more abound with Alkalious Particles, than the Blood of the same or any other person who is in a state of Health. What is this *cretaceous* Body but a collection of *homogene* Particles, Particles of one determinat Figure? I say, a collection of Particles of one determinat Figure, by reason the Fire will not totally destroy its Texture, which

were it a Body composed of Particles of different sizes and figures (which are what we Chymists call *heterogene* ones) the Fire would destroy it; and that these Particles are what we call *Alkaline* ones, I suppose no one will dispute, seeing they answer all the *Phænomena* that the most known Alkalies will do, *viz.* to cause an Ebullition or Effervescence with all the acid Spirits, such as Spirit of *Niter*, *Sea-Salt*, *Vitriol*, *Vinegar*, &c. and when calcin'd will turn Syrup of Violets green, and sometimes (tho not always) do the same without Calcination. Now the Blood and Juices during the time of a Fit being too turgid with Alkalious Particles, and the Emunctories by which they should be discharged being some way or other obstructed, or made incapable of throwing off these excrementitious Alkalious Particles, by that means they are thrown upon that Part which is most disposed to receive them, and affect the Part with the most raging, intolerable sort of Pain: and in time there is a coalition of the said morbid, excrementitious Particles into the said cretaceous Substance; and it is very plain, the said Substance is nothing else but the morbid Matter indurated.

That the whole Mass of Blood, and the rest of the Juices do abound with too great a quantity of Alkaly during the Fit, and before the Fit comes on, not only the Generation or Coalition of this chalky, alkalious Substance, but the Quantity that is generated is sufficient to convince.

vince. I have known almost two Drams taken from the middle Joint of the great To, which was all generated in that place, at least during the time of a Fit, which was not a very long one; and that it was generated during that time is plain, the Part not being in the least swelled before the Fit's Invasion: and that this Substance, or the Particles of which it is composed, are separated from the whole Mass of Fluids, is past contradiction. According to the most nice Observation I could ever make, this Substance is lodged in the Glands immediately adjoining to that Membrane which covers the Bones at the place of their joining together. Now if the whole fluid Matter contain'd in those Glands were converted into that chalky Substance, the quantity could not be so great as what is frequently found upon some of the small Joints, *viz.* on the Fingers and Toes: Therefore it must procede from these Parts being overmuch relaxed, by which means this great quantity of Alkaly is separated from the whole Mass, and cast upon them. That it cannot procede from the Coagulation of the Juices in the Part only, is very plain, the Juices of the Part being heterogeneous Substances, or Substances composed of Particles of differing sizes and figures; and whatever Substance is composed of such different Particles, can never produce so simple a Body as this chalky Substance is: Wherefore this Body can be nothing else than a Coalition of simple

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Alkalin Particles separated from the Blood, and lodg'd upon the weaken'd, relax'd Part; and from the Laxity of the Part it is that so great a quantity of these Particles is heap'd together, and so causes the Nodes. And as the Relaxation is greater or less, so the Nodes are, the Part being capable of distending more or less, and receiving a greater or less quantity of the said Particles, according to the greatness of the Relaxation.

Tho I argue from the generation of these Nodes during a Fit of the Gout, and the existence of them afterwards, that the Blood at that time is more turgid with Alkalious Particles than at other times; yet I would not have people imagin that I know so little of the Gout, as to say that no Part is affected with it, where during the Fit these chalky Nodes are not generated: For should I do so, I should betray my self to be altogether ignorant of the Distemper of which I have bin so long treating. I do allow there are a great many people that have long and tedious Fits of this Distemper, who have never any of these Nodes; nay very frequently the Fits are more violent: For, *Salia non agunt nisi soluta*; Salts don't act, at least not in such a degree, unless they are dissolved. And the Salts or Alkalin Bodies of which these Nodes are composed, being precipitated upon the Part in a dry form, do not cause so great a Vellication as if they were dissolved in a slimy viscous Substance: for tho the
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Stagnation is greater, yet the Vellication is not so great, and by consequence the Pain not so violent; nay, when there are Nodes generated, the Fit usually terminats in that Part; but in those Fits where there is no Node generated, one Part is tyrannically handled for a considerable time, and then the morbidic Matter is translated from that Part to another: and so som are tormented for whole weeks and months together, especially if there be a general Debility and Weakness of all the Parts: tho frequently the morbidic Matter is discharged, and the Distemper gos off after it has crucified one Part only, especially for the first five or six Fits; yet afterwards it is not so civil, but when one To, or som one Joint of either Hand or Foot has bin tormented for many days together, after a small remission, it will fetch a skip to som other Part on the contrary side. After this manner are poor Mortals handled, especially those who abound with the good things of this World, which occasion'd one to say, *Si Salutem cupis, aut Pauper sis oportet, aut ut Pauper vivas*: If thou desirest Health, be a poor Man, or live as a poor Man; for sweet Meat must have sour Sauce. The antient *Romans* to prove this, invented this Fiction: They feign'd two Goddesses, the one called *Volupia* the Goddess of Pleasure, the other called *Angeronia*, the Goddess of Anguish and Pain, Names fitted to their Natures; and the Priests of *Angeronia* did serve at the Altar

Altar of *Volupia*, to signify that in this Life Pleasure and Sorrow are mix'd together ; and the Image of *Angeronia* (Anguish and Pain) was always set upon the Altar of *Volupia* (Pleasure) to teach that Sorrow is a Companion of Pleasure, and Pleasure of Sorrow.

I have said before that Pain proceeds from a contraction, and Pleasure from a relaxation of the Nerves and nervous *Fibrilla*. Now I confess it seems contradictory that I should lay it down as an almost indisputable Truth, that the Parts being relax'd are the original cause of this Distemper, and that being kept in a state of Contraction they should hinder the first invasion of it, or its returns afterwards ; when at the same time I allow that the violent Pains attending people during a Fit proceed from great Contractions ; and according as the Contractions are greater or less, so are the Pains, the Contraction being caused from acrid, corrosive, alkalious Particles ; and as those Particles abound in quantity or quality, so are both Contractions and Pains greater or less. There is a distinction to be made between natural and preternatural Contractions and Relaxations : the Parts being naturally and regularly contracted, do enable Nature to perform all its Operations aright, and so by moderat relaxation do create Pleasure ; but any of the Parts being overmuch or overlong relax'd, by that means cause a Load of excrementitious, alkalious Particles (And as I have
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many times observ'd, so I still continue to assert, that the Excrements of our Bodies are all Alkalious, such as *Sweat*, or what is discharg'd by insensible Transpiration, *Tears*, *Earwax*, *Urin*, *Bile*, &c. But what is voided by Stool is not properly to be called the Excrement of our Bodies, that being rather the Excrement of our Food, and for the most part nothing but the gross parts of what we eat, which are unfit for Nutrition, tho frequently upon som Indispositions of the Guts, and taking Purges, there are great discharges from the Blood and Juices that way: But what that Substance is, or of what particles it is composed, my squeamish Temper would never yet give me leave to try) which being lodg'd upon any part, and overmuch relax'd (unless the parts are so much relax'd as to cause the Palsy, and therby have lost all manner of Sensation) do by vellicating and eroding the sensible *Fibrilla*, put them into violent, dolorous Contractions, which continue till the vellicating Particles are som way discharged, or else by the interposition of som terrestrious Substance their Angles are filled up, and so made incapable of vellicating the Parts: of this kind is that cretaceous Body contain'd in the Nodes, there being generally no longer any pain after the cretaceous Substance is perfectly form'd.

While in these frail Bodies we are always subject to change, the greatest Pleasure bringing us to the very brink of pain and misery, and

is what generally succedes it; and by enduring Pain, we know the better how to set a value upon that which is truly and substantially pleasant.

Sleep, which is none of the least of our Pleasures, is but an *Umbra* of Death; and tho during the time of it, when the parts are relax'd, the Matter for Nutrition is cast upon them, yet not without a mixture of excrementitious particles; which, when we awake, if the parts are not able so to contract themselves as to throw off the excrementitious particles, as well as apply the nutritious ones, a Distemper must follow.

I being in company with a Stationer in *Fleetstreet* not long since, he complain'd that he was seldom free from the Gout in his Feet; and if at any time he applied Colwort Leaves (as he frequently did) to the bottoms of them, within a few hours after he could scrape from each of them near a spoonful of fine Pouder of Chalk, and from the discharge of this Alkalious Substance he found great relief. Pray from whence could this chalky Alkalious Substance com, or what should it be but the Matter of his Distemper, the discharge of which was a great Relief to him? Now had his Distemper proceeded from Acids, the bringing away of the said chalky Alkalious Substance must, instead of being serviceable to him, have bin a great detriment and disadvantage, by reason it would have mortified the

the Matter of his Distemper: But the great quantity of Alkaly discharged is a plain Argument that there was no Acid to mortify, but that this very Alkaly it self was the Matter of the Distemper, and therefore the discharge of it proved beneficial.

A great many Instances of this nature I have met with, as I question not all other Physicians, who have bin any way conversant with such as are subject to this Distemper, have don: And if we would give ourselves the liberty of thinking, and making due Reflections, we cannot but attribute the Cause of this Distemper to an abundance of Alkalies in the Blood and Juices, or at least in the parts affected.

C H A P. II.

HAVING, I hope, given a somewhat clear Account of the Cause of this Distemper, I shall now procede to the Cure of it; in which I doubt not to acquit my self better than my Predecessors have don, the Foundations upon which they built being sandy, and so not like to last long, but liable to be overthrown by every Blast. Now my Foundation being substantial and firm, I doubt not the Superstructure will be so likewise, the Experiments on which I have built my Hypothe-
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sis being so clear and demonstrable, that I defy the World to contradict them.

I shall, *first*, begin with the *Dietetic Cure*.

Secondly, Shall endeavor to demonstrat the Insufficiency of the Method of Cure both heretofore, and at this time commonly practised by the generality of Physicians in using *Alkalious Medicins* and *Opium*.

Thirdly, I shall give an Account of the Method of Cure by the means of Acids, wherein I doubt not, to all unprejudiced persons, to make it appear that this Distemper deserves not to be rang'd among the number of incurable ones: And then conclude all with two or three very remarkable Cases.

First, for the *Dietetic Cure*, which consists in the due regulation of the six things called *Non Naturales*, which are; First, *Air*: Secondly, *Meat and Drink*: Thirdly, *Motion and Rest*: Fourthly, *Sleep and Watchfulness*: Fifthly, *A due excretion of the Excrements, and retention of the good and useful Juices*: Sixthly, *A due regulation of the Passions*.

Without a due observation and regulation of the forementioned six things, all the Medicins in the World can avail but little, tho the Advantage that accrues from the use of 'em, is more in preventing the return of the Distemper than in taking off the Symtoms when people have a Fit upon them.

First

First of all *Air*, without which we can scarce live a minute; and as Air in general dos contribute and is absolutely necessary for our living at all, so good Air greatly contributes to our living well and in Health. It is said by som body, that *plus Aere quam Cibo vivimus*, we live more by Air than Meat: and that Air dos assist in the nutrition of Animal Bodies, the famous Instance of *Vipers* so well known, is sufficient to evince; for let a young Viper be put into a Glass-Receiver, and the Receiver be cover'd over with a Bladder that has holes prick'd in it, and the Viper will become as large and fat as if he were in the open Fields. I have not made this Experiment my self, but have received it from Persons of that Worth and Honor who have don it, that I as much believe the Truth of it as if I had made the Experiment. If the Air in which we live and breathe has any communication with the Juices of our Bodies (which I believe no one doubts) then good Air must of consequence grearly contribute towards preserving the Texture of the Blood and Juices; and on the other hand, when the Air is contaminated and corrupted with heterogeneous Particles, it must destroy the Texture of the Blood and Juices. Therefore people who are troubled with the Gout should endeavor to live in the most serene and clear Air that possibly they can, and avoid that which is thick and foggy; and full of extraneous particles;

for if such Air will contaminat and destroy the Texture of the Blood and Juices of those who are in a state of Health, which 'tis plain it will, of consequence it must in a more eminent manner do so to those who have a Distemper already lurking in them, and their Blood and Juices out of order. What will contribute to the preservation of Health in those who enjoy it, will in som measure assist in the cure of Diseases; and on the contrary, what will contribute to the destroying of Health, will also contribute to the bringing on of those Diseases which people have already lurking in their Bodies.

Secondly, *Meat and Drink*. People who are troubled with this Distemper ought to be very nice and careful both as to the Quantity and Quality of what they eat and drink. If they excede in Quantity, then they oppress Nature instead of relieving her. As to the Quality they ought to take great heed, and not eat or drink any thing that abounds with such Particles as will either exasperat a Fit when they labor under it, or bring on a Fit when they are free from it. Therefore as to Meat, let it be such as is easy of Digestion, and affords a good Juice, such as *Veal, Lamb*, and all sorts of Fowl, whose Flesh is white; and for the Sauce let there be always somewhat with it that is moderatly Acid. The moderat use of all acid Fruits is very convenient, but such as are very luscious and sweet are to be avoid-

avoided. All sorts of Salads in the Summer time are very good, and in the Winter the hot Salads, such as *Salary*, &c. they generally agreeing with most peoples Stomachs, and helping Digestion. As for Drink, all highly fermented Liquors abounding with vinous Spirits are very bad, and *Brandy* and other Cordial-Waters made of it are as much to be avoided as a mad Dog, or any thing that would certainly cause ones Ruin and Destruction: Therefore those who drink Wine, would do well to drink the smallest and thinnest they can procure, and even with that to mix a small quantity of Water; and whatever they do, let them avoid Debauches. As for those who drink Beer, let it be small and very clear; and if at any time they drink that which is strong, let it be clear and in moderat quantities. *Moyle* and *Pippin Cyders* are admirable Liquors for those who are troubled with the Gout, but they are much better out of the Hogshead than after they are long bottled. There is an old and a true Maxim, that every Man after he arrives at the Age of Thirry, is either a Fool or a Physician: which Maxim is only verified in respect to Peoples regulating themselves in their Diet; it being impossible for any Physician to lay down a certain Rule of Diet for every body to follow, because there are som things that very well agree with the generality of Mankind, yet to som are as bad as Poison. Therefore the best way is for every

man to make nice Observations himself, and use those things he finds agree well with him, and avoid those things he finds do him hurt. I have known *Flummery* that is very acid, taken morning and evening, to be of admirable use to Gouty People : As also the eating of *Cremor Tartari*, made into very fine Pouder, with their Meat, instead of common Salt, and is much more grateful than common Salt. Also the eating of Lemon and Sugar about an hour after dinner, is greatly helping Digestion, and destroys the Matter of this Distemper, and agrees with most peoples Stomachs. *Lemonade*, especially in the Summer-time, is an admirable Drink for gouty People.

Thirdly, *Motion* and *Rest*. Due Exercise and proper Seasons of Rest do as much contribute to the preservation of Health as any thing whatever. But to give any particular Directions about them no man can, for Bodies requiring a great deal more Exercise than others. Yet in general, I think it absolutely necessary for every one to use as much Exercise morning and evening as their Strength will bear ; but after Dinner to rest two or three hours without sleeping, that being very pernicious at that time. The Exercise they use should be such as will make them perspire well, but not so much as to make them sweat ; for in much sweating there is a great expence of Spirits, as well as a discharge of the superfluous and noxious Juices, by which means the

the Body may sustain a great deal of prejudice. There must be also great care taken not to expose the Body to the Air in a cold and moist Season after any violent Exercise, which suddenly shuts the Pores, and causes a stagnation of the Juices.

Fourthly, *Sleep and Watchfulness.* As moderate Sleep is the most necessary thing in the World for us Mortals while in this State; so the over-much indulging our selves to it brings as many Inconveniences upon us as any thing whatever. The Night, as the most natural Season, is appointed for us to sleep; and according to the most general Observations, People are more refresh'd with one hour's sleep in the night, than with three or four in the day-time. Let People therefore who are subject to the Gout avoid sitting up late at night, but go to bed in good season, and rise early in the morning; and be sure to let their Suppers be well digested before they go to bed: And let them avoid Afternoons sleep as they would a Serpent, or any other thing that would certainly do them mischief. Over-much Sleep and over-much Watchfulness are equally pernicious, for both of them destroy the Tone and Springiness of the Nerves, and thereby hinder Nature from performing its Office in throwing off the excrementitious Particles.

Fifthly, A due *Excretion* of the Excrements, and *Retention* of the good and useful Juices.

If any usual Evacuation be stop't, it must be promoted by Art. Costiveness is very pernicious, and on such occasions the Body must be kept open by gentle Lenitives; and the very best thing in the World upon such occasions is half an Ounce of *Cremor Tartar* in a Draught of Flummery or Water-gruel, first in the Morning. If Perspiration be stop'd, it must be promoted by moderat Exercise, &c. If there be any preternatural discharge of any of the good and useful Juices, it must by all means be remedied. All these things may be done without mens exposing themselves to live *medicè*, and of consequence *miserè*, according to the common Acceptation; there being nothing that I inculcat but what is pleasant and agreeable: But were it not so, Health cannot be purchased at too dear a rate.

Sixthly, and lastly, A due *Regulation* of the Passions.

The Passions of the Mind have a wonderful influence upon the Juices of the Body, and therefore People ought to be very nice in the regulation of them. Anger, and Fear, and Melancholy ought carefully to be avoided, and Cheerfulness of Temper to be kept up as much as possible. I know one man who is never heartily angry, but he is immediatly troubled with the Colic; and another, who after being in a Passion is troubled for two or three days with the most violent Headach imaginable. And I believe there is scarce any man who

who is not som way or other disorder'd in his Body after a very great perturbation of Mind.

C H A P. III.

SEcondly, To demonstrat the Insufficiency of the Method of Cure both heretofore and at this time in common practised by the generality of Physicians.

For the right performance of which, I shall give you the whole Process of a Method taken by a great Physician, Sir J. G. since dead, with a noble Lord. He used all the Alkalious Medicins, both internally and externally, that could be thought on, which instead of taking off his Distemper, exasperated it, and by destroying the Texture of the Blood and Juices brought him into a Dropsy, from which he was not to be retriev'd. The Prescriptions are exactly copied from the Originals, which are to be seen upon the File at Mr. *Nicolson's* the Apothecary in *Covent Garden*, who is of that Integrity and Honesty, that I am sure the Prescriptions were faithfully made up. And if *Alkalies* would have don any thing in this case, I am sure here are enough of 'em, and of all sorts, even the most exalted; and among the rest, there was given *Sal Tartari* volatiliz'd, or at least he call'd it so, which he made Mr. *Nicolson* purchase at a dear Rate.

April 8th, 1691.

℞ *Aq. Cerasor. Nig. Flor. Tilia, ana dracm. sex; Cinnamomi Hord. Citri totius, ana unc. sem. Diacodii unc. unam; Laud. Liquid. Cydon. gut. xii. M. cap. horâ somni.*

℞ *Decocti Almari (fact. cum Sennâ, Rhabarb. ana dracm. unc. sem. Salis Tart. scrup. duos; Quinquin. dracm. unam) unc. quatuor; Crem. Tartari dracm. sem. Syr. Flor. Persicor. Aq. Cinnamom. Hord. ana unc. sem. M. cap. horâ septimâ matutinâ superdormiat.*

℞ *Aq. Lactis Alex. Cerasor. Nig. ana unc. quatuor; Peonic Compos. Cinnam. Hord. Protheriacalis, ana un. unam; Perlar. pr. Oculor. Caneri pr. ana dracm. duas; Alkermes dracm. quinque; Syr. Flor. Tunicæ unc. unam. M. Cap. Cochlear. tria vel quatuor, prout necessitas postulat.*

April 9th.

℞ *Aq. Regin. Hungar. unc. quinque; Tinct. Cast. S. V. extract. Tinct. Croci S. V. extract. ana unc. tres, Tinct. Opii S. V. extract. unc. duas semis; Camphora dracm.*

dracm. quinque ; Sacchari Saturni dracm. quatuor. M.

Rx *Emp. de Sapone unc. tres ; Opii soluti & inspissati dracm. duas sem. Camphoræ dracm. duas ; Sacchari Saturni dracm. tres. M. f. Emplast.*

Rx *Aq. Lactis Alex. dracm. sex ; Spir. Mentha, Peon. Comp. ana unc. semis ; Diacodii unc. unam ; Laud. Liq. Lond. gut. xviii. M. cap. horâ somni.*

Rx *Ol. Mac. per Exp. unc. semis ; Balsam. Lucatulli unc. unam ; Balsam. de Gilead. dracm. tres ; Ol. Stil. Lumb. terrest. Stil. Absynthii, Garriophyllor. ana dracm. unam.*

M. cum quo inungetur Regio Ventriculi ad minimum bis in die, post injunctionem applicetur isti Regioni Empl. de Theriacâ Venet.

Rx *Conchar. pr. Oculor. Cancræ, ana gr. xlii. Salis Absinth, scrup. semis ; Cinnabar. nativi gr. octo. Cap. mane crastino die cum Cochlear. Fulap. prius præscript. superbibendo Cochlear. tria ejusdem. Repetatur pul. præced. horâ septimâ vespert. addendo Laud. Opiati gr. iii.*

April 12th.

℞ Gummi Ammon. puriss. Mastiches, Thuris, ana dracm. duas; Succini pr. Oculor. Cancr. Corallii Rub. ana dracm. unam; Cinnabaris nativi, Sacchari Saturni, ana dracm. tres; Milleped. pr. unc. semis; Castor. dracm. unam; Croci dracm. tres; Salis Volatilis succini dracm. un. sem. Viperar. dracm. duas; Camphora scrup. duos, cum q. s. Ammoniaci sine Acido solut. & inspissat. F. Pil. Sig. The altering Pills.

℞ Aq. Reg. Hung. unc. quatuor; Tinct. Castor. S. V. ext. Tinct. Croci S. V. ext. ana unc. duas; Tinct. Opii S. V. ext. unc. sex; Sp. Lumbricor. unc. sex; Camphora dracm. quinque; Sacchari Saturni unc. semis. M. Signetur, The Mixture for external Application.

℞ Empl. de Vigo 4^{to} Mercurio, De Ammon. cum cicuta, ana unc. tres; Camphora dracm. quatuor; Sacchari Saturn. dracm. quinque; Opii solut. sine acido & inspissa. unc. semis. Sine ignis calore mixt. f. Magdaleon: adde, Castorei, Croci, ana unc. semis; Sp. Lumbricor. q. s. ad Malaxationem.

April

April 15th.

℞ Balsam. Lucatulli unc. duas; Ol. Macis per Expres. dracm. unam; Axung. Ursi, Anseris, ana unc. semis; Balf. de Gilead. dracm. sex; Ol. Succini, Petrolei, ana unc. sem. Ol. destillat. Cinnamom. dracm. sex; Spir. Lumbricorum, Formicar. ana dracm. tres; Ol. destillati Buxi dracm. duas; Garriophyllor. dracm. duas semis; Camphora dracm. sex; Ol. Laurini, Hyperici, Ruta, ana un. semis. M. f. Linimentum, pro externa applicat. part. affect.

April 19th.

℞ Spirit. Cochlear. unc. duas; Diascordii dracm. tres; Aq. sperm. Ranar. unc. unam sem. Regin. Hungar. unc. unam; Laud. Lig. gut. 40. M.
Signetur, The Wash for the Gums.

℞ Coral. pr. Offis sepia subt. pul. Lapis spongia, ana dracm. tres; Terra Catechu. Sacchari Saturn. ana dracm. duas, cum Mellis Rosati q. s. f. Opiatum.
Seg. The Opiat for the Gums.

April

April 20th.

℞ *Aq. Cerasor. nig. unc. unam semis; Lactis Alexit. Sp Mentha, Diacodii, ana unc. unam; Aq. Gentian. comp. dracm. tres; Oculor. Cancrī scrup. unum. Laud. liquid. gut. 15. M. Sig. The quieting Potion.*

April 22d.

℞ *Haderē Terrest. Parietaria, Malva, ana M. unum; Flor. Chamomillæ, Meliloti, Sambuci, ana p. unum, f. decoct. in q. s. Aq. font. & coletur hujus Colaturæ. ℞ unc. sex; Vini emet. unc. duas; Diacathol. Mell. Mercurialis, ana unc. sex; Ol. Laurini unc. unam. M. f. Glist. detur primum.*

℞ *Diascordii dracm. unam; Oculor. Cancrī scrup. unum; Salis volat. succini, Bezoar. Mineral. ana gr. xxv. Laud. Opiati gr. tria; Aikermes scrup. unum, cum syr. Papav. Alb. q. s. f. Opiatum, detur hora somni.*

April 25th.

℞ *Decoct. Amari (fact. cum Senna dracm. duab. Rabarb. dracm. una; Salis Tart. scrup. duob.) unc. quatuor; Syr. Flor. Persicor.*

and Cure of the Gout. 309

*Persicor. unc. unam; Aq. Cinnamomi
unc. unam; Cremor. Tart. solub. dracm.
unam. M. f. potio, cap. cras mane.*

April 30th.

*Rx Ext. Rudii scrup. duos; Sal. Tart. gr.
sex. M. f. Pil. n. quinque, cap. horâ sex-
tâ aut septimâ mane.*

*Rx Aq. Gentian. Comp. Absynth. Comp. ana
unc. tres; Sp. Lavend. Comp. Spirit. Men-
thæ, ana unc. duas; Tinct. Bezoard. unc.
unam; Spirit. Castor. dracm. tres; Conf.
Alkermes unc. semis; Syr. Flor. Tunica
unc. unam; Laud. Liquid. dracm. tres.
M. Signetur, The Cordial.*

May 29th.

*Rx Aq. Mirabilis unc. tres; Spirit. Menthe
unc. quatuor. M. pro Vehiculo laud. opiat.
Pul. E. Chelis Cancror. dracm. semu.*

May 31st.

*Rx Theriaca Venet. Diascordii, ana dracm.
unam; Alkermes Comp. scrup. unum;
Salis volat. succini, Bezoard. Min. ana
dracm. semis; Laud. Opiat. gr. quatuor..
M. Cap. ante cubitum.*

June

June 1st.*Repetatur Opiatum præced.*June 4th.

*Rx. Oculor. Cancræ gr. xvi. Cinabaris Nativi
gr. novem; Pul. e Chelis Comp. gr. quin-
decem; Laud. Opiati gr. tria. M. f. Pul.
cap. ante horam somni.*

Here are Alkalies and Opiats with a witness: but it is to be noted that most of these Prescriptions were several times repeated, yet instead of being any way serviceable, exasperated the Symtoms, and not only fixt the morbid Matter upon the affected Parts, but destroy'd the Texture of the Blood to such a degree, that a Dropsy followed, which proved of fatal consequence.

The Medicines here prescrib'd are those that are generally used by most Physicians; and if ever any body receiv'd advantage by them, I dare be burnt: and that ever Men should have such dull Fancies, as not to vary from a Method that has never once stood them in any stead, looks very odd. And as for Alkalious Medicines in general, I dare be positive that they never yet cur'd any one Distemper, but very frequently have don a great deal of mischief; they being given in acute Distempers, Nature her self there throws off the
Load,

Load, if she be strong and vigorous, in spite of them: But if poor Nature be weak, they add to the Load, and she falls under it. And the only reason why we don't see Fevers and other acute Diseases cur'd every day without waiting for a Crisis, is because the Medicins generally given are of the very same nature with the morbid Matter, and of consequence must prolong the Course of the Distemper. I have frequently observed in Epidemic Fevers, that Number for Number of the Sick, there have at least two for one died of those who have made use of Physicians, to those whose Fortunes would not permit them so to do; and pray what should be the reason of this, but that the Poor who took no Physic, or at least no Alkalies to expel Malignity, as they call it, but drank either Water, four small Beer, or som such things, should recover when the rich ones die; and that the one by their Alkalies, instead of expelling increased the Malignity, when the other by their mean but well-suted Remedies conquer'd their Distemper? In Chronical Distempers, such as the Gout, &c. poor Mortals are let alone to languish under their Oppression, and the Physician, like one of Job's Comforters, gravely tells them, *Solvere nodosam nescit Medicina Podagram*; but yet after all the fruitless Attempts that have bin made, will be for putting the poor Wretch into a Course of Alkalies to correct those luxuriant acid

acid Particles with which he would fain persuade his Patient that his Blood abounds (tho he never found any such thing there) to the pauling of his Stomach, and exasperating his Distemper: and if ever the poor Patient finds relief, it is from the Opium that is between whiles given; and if from that he has any little intermission of his Pain, they are generally so ungrateful as not to set the saddle upon the right Horse, to give the *Opium* its due, but presently hug themselves, and cry, God a mercy Alkalies, and so go on with a *Repetatur Pul. E Chelis*, &c. But most Gentlemen have now seen so much of the Fallacy of this Method, that they patiently endure a Fit of the Gout, without so much as once sending for a Physician; so that if we do not look about us and endeavor to regain our Reputation, we may chance to be laid aside in other Distempers as well as the Gout. *Helmont* somewhere says, he that can't cure a Fever in four or six days, does not deserve the Name of a Physician; which if true, I am afraid Physicians are not to be found in every Street. And I presume to say, That a Physician shews his skill more in curing one Chronical Distemper, than in a hundred Acute ones: for Nature would do that work her self in the time we generally do it, without our help, and frequently, as the Tide runs, better without than with. What I have said is not to reproach the Physicians of our own Nation, who are many of
'em

'em as great Men as ever were of the Profession, and generally this City abounds with such; but my design is to undeceive young Physicians, who have bin imposed upon by Foren Authors, and to excite them not to rely upon men who have broached the Chimeras of their own Brain without making Experiments, to try whether their Norions were true or false. But to return to my business.

If the Blood's abounding with *Alkalious* Particles be the primary or fundamental Cause of the Gout, how can the giving of Alkalies be of any use? of no other use than the throwing a Load of dried Faggots upon a House that is on fire would be to extinguish the Flames; and whoever should attempt such a thing, would be accounted little less than a Mad-man. And now it is in my mind, give me leave to insert a Relation I had from Mr. Tardly a Glover of Worcester, the most ingenious Man perhaps that ever was of his Trade; he being (which is very strange for one of so mechanic and mean a Trade) a curious Philosopher, and a nice Observer of things: He tells me that in the making of their Leather, they first throw their Skins into a Pit filled with a strong Alkalious *Lixivium*, which in a manner rots them; afterwards they make a strong acid Solution, into which they throw their almost rotten Skins, which again reduces them to their Texture, nay makes them firmer than they were at first: from whence

it may naturally be infer'd, that Alkalies break the Texture, and destroy the Parts of animal Substances; and that moderat Acids preserve them, and restore them to their Tone and Texture, when before spoiled by Alkalies. It has bin an old and receiv'd Maxim, that *Similia Similibus gaudent, & Contraria Contrariis curantur*. If the Blood abounds with Alkalies before, and so causes a Distemper, the giving of Alkalious Medicins must increase the quantity of the morbidic Matter, and so heighten the Distemper by exasperating the Symtoms; unless 'tis pretended that one Alkaly will destroy another, which I am sure is false, there being an amicable correspondence between them all, the fixt Alkalies mixing with volatils, and all the volatils and fixt ones with one another, without the least *luctus* or strife: so it is plain that Alkalious Medicins will readily mix with the Alkaly they find in the Blood and Juices, and by increasng the quantity of the morbidic Matter, as before said, must exasperat and increase the Distemper; whereas Acids which are contrary to Alkalies (there being a Conflict between them wherever they meet) given in due proportion, will lessen the Matter of the Distemper, and in time totally extirpat it. But this is a hard saying, and difficult to be understood, especially by those who have not a mind to be inform'd.

I have in another place* given ſom more Reasons for my diſſent to the uſe of Alkalies in the Cure of this Diſtemper, which for brevity ſake I ſhall not repeat; however I think thoſe Gentlemen who perſiſt in the uſe of Alkalious Medicins are very happy, *Quoniam Succellus eorum Sol videt; Errores autem Tellus opperiret*: Becauſe the Sun ſees their good Succellus, but their Errors are hid in the Ground, that is, in the Grave. If Nature be ſo ſtrong as to conquer the Diſtemper, the Phyſician has the Reputation of it; but if the Patient dies, he never tells any Tales: Yet had we the opportunity of converſing with our departed Friends in their ſeparat State, I am afraid they would tell us many diſmal Stories, by what means they were ſent packing into another World.

I have made a ſlight Reflection upon the exorbitant quantity of *Opium* preſcrib'd in the foremention'd Caſe: yet I would not have people believe that I utterly diſallow the Uſe of *Opium* and the ſeveral Preparations of it in this Caſe; but on the contrary, I uſe it, not only in this, but in all other Diſtempers attended with Pain, and think it one of the greateſt Bleſſings that ever God Almighty beſtowed upon the Commonwealth of Phyſic. For all which I cannot ſay I ever once ſaw any one Diſtemper cur'd by the uſe of *Opium* a-

* *Eſſay concerning Alkaly and Acid.*

lone; but however it dos us so much service as to allay the Orgasm of the Spirits, and eases the Pain, by which means we gain time to give such Medicins as are proper to eradicat the Distemper. I shall presume to give an Instance of it in a very extraordinary Case, tho somewhat different from the Subject in hand. I was sent for about six years ago to a person in an Iliac Passion, wherein the peristaltic Motion of the Guts was totally inverted, the Patient vomiting up his Excrements, and stinking so abominably that no one could endure the Room where he lay. I gave him two or three very sharp Clusters, to draw the Matter downwards, but he presently vomited them out at his Mouth. I gave him a Dose or two of purging Pills, with som cordial Stomachic Julaps, which he vomited up again the very instant he took them. At last seeing him in the utmost Extremity, I gave him 10 grains of crude *Opium* made into Pills, which he retain'd in his Stomach, and began to grow dosy. After he had continued so about an hour, I gave him the following Pills.

℞ *Ext. Rudii scrup. duos; Ol. Garrioph. gut. decem. M. f. Massa, ex qua formetur Pil. N^o. sex, statim assumend.*

After these Pills had bin in his Stomach about an hour and half, I gave him the following Clister.

℞

℞ *Flor. Chamomil. M. duos* ; *Baccar. Junip. unc. tres* ; *Sem. Annisi, Carrui, ana unc. unam* ; *Rad. Hellebori nig. unc. semis* ; *Colocynthydos dracm. duas* ; *Aq. Font. ℥ duas* ; *coquantur ad dimidia partis consumpt. & coletur* : *Colatura adde Syr. e Rhamno Cathart. unc. duas, Ol. Annisi gut. xxx. M. f. Enema, statim injiciend.*

After the Clister had bin injected about an hour, he had a large Stool, and in two or three hours he had five or six more ; after which I supplied him with Cordials and Carminatives, and his Vomiting never return'd. By this Method I have several times since retrieved many from the very Jaws of Death. Now had I not given that very large quantity of *Opium*, my Purge and Clister would have avail'd nothing, by reason he would presently have vomited 'em up ; but the *Opium* allaying the *Orgasm* of the Spirits, the Purge and Clister were capable of performing their Office, which otherwise they would not have don : and had I not given the Purge and Clister as soon as the *Opium* had made all quiet, they would have avail'd nothing, and the *Opium* alone would have stood me in no stead, as I have twice seen ; for as soon as its Operation had bin over, the Vomiting would have return'd with as great violence as ever. So in the violent Fits of the Gout the giving of *Opium*

makes the Patient easy, and by that means proper Medicins have many times the better effect; but I cannot allow the use of Opium and Alkalies together, because the Alkalies by the means of Opium are longer retain'd, and thereby do the greater mischief. But of what use the applying of Opium externally can be, I could never understand, unless to fix the morbid Matter on the Part affected, and so prolong the Distemper. The Learned and Ingenious Dr. Jones has promised us e're long a complete History of *Opium*, and therefore I shall dwell no longer upon it.

Besides the external Application of Opium, there was constantly applied to the affected Parts an Emplaster of *Emp. de Sapone*, &c. which never did any service: I have also known it used by forty other people without any effect at all, unless to exasperat and increase the Pain. Now Soap is a Composition made of nothing else but a fix'd Alkaly and Oil. And the Parts affected with the Gout being turgid with Alkalious Substances, I cannot understand with what shew of Reason people can apply Alkalies in such Cases.

[And as a farther proof of the insufficiency of Aikalies internally taken, I shall presume to relate the following Case.

In *July 97*, I was sent for to a Gentleman eminently known about this Town, who for many years had bin miserably tormented with the Gout, and was becom a perfect Cripple, nor able to walk, stand, or turn himself

in his Bed. Now he being a man very agreeable in his Conversation, and of almost universal acquaintance, had an opportunity of relating the miserableness of his Circumstances to many Physicians, some of whom were of the first rank: they all, from the highest to the lowest, generally agreed that the only occasion of his being so sadly tormented, proceeded from the superabundance of Acids in his Blood and Juices; and therefore advised him, as the only effectual way to preserve himself from falling a Victim to his Distemper, to take Alkalious Medicines in large quantities, pursuant to which directions he constantly carried about him a large Box of Testaceous Pouders, and seldom failed to take an Ounce or two of them every day; in spite of which his Distemper continually gain'd ground of him, so as to make him a perfect Cripple as aforesaid. At last meeting with the first Edition of this Tract, and carefully reading it, he was in part convinced that his Physicians had bin mistaken, and that he was misinform'd as to the true Cause of his Distemper; whereupon he sent for me. As soon as I came into the Room to him, he threw his Box of Alkalious Pouder into the Fire, using the following Expression: I took these Alkalious Pouders to be my Guardian Angels, but on the contrary I find by experience they have bin no less than tormenting Devils, and therefore for God's sake afford me your assistance in order to re-

medy the Inconveniencies I labor'd under on the score of my Distemper and these damn'd Pouders. Upon which I put him into a Course of Acids that soon abated his Pains, from which he had scarce bin free for six months together; and by continuing the use of them, he has in som measure recovered the use of his Limbs. I could now give forty instances of People made miserable by the internal and external use of Alkalies, who have bin retrieved from their Calamity by the internal and external use of Acids.

As for Topics, I have known many, who have applied Spirit of *Sal Armoniac*, &c. to the affected Parts, with the worst success imaginable.]

But som may say, how can Topics have any effect at all in this or any other case? How can there be any Communication between the Matter applied and the Matter of the Distemper, when the Skin at least, if not som other Membranes, do interpose between the one and the other?

To which I answer: That the Skin abounds with Receptory as well as Excretory Pores, which I have frequently observ'd in the Skins of many Animals by my Optic Glasses; by means of which Receptory Pores there may be a communication between the Medicin applied outwardly and the Matter of the Distemper, so as the one may act upon the other. To prove which, it is well known there are

many things, that being applied to the Belly will cause as violent Purgations, as if a strong Purge had bin taken at the Mouth. Also the strange and sudden effects of Medicins applied to Parts affected with the Gout, do demonstrate that there is a Communication between the Medicin applied and the Matter of the Distemper, by means of the said Receptory Pores: For I have more than once known people perfectly freed from the most intolerable Pain in half an hour, by the use of the Balsam hereafter mentioned.

C H A P. IV.

I Shall now procede to my own Method of Cure, which, tho it be very easy and plain, I thank God has very seldom fail'd me. And if I have bin called as soon as the first Symtoms of the Distemper appear'd, I have generally carried it off without suffering it to fix on any Part. As for instance; When my Patient complains of a Crudity and Rawness of his Stomach, with a windy sort of Distension and Heaviness of his Body, which are certain Arguments of an approaching Fit; if he be of a Sanguin Complexion, and a Plethoric Habit of Body, I first of all prescribe Blood-letting, from twelve to twenty Ounces, according to the Patient's Strength: I then
order

order the following Tincture to be taken night and morning for about three days.

℞ *Spec. Hiera Picra* ℥ij. *vel* ℥i. *Tart. Vitriolati, Cremor Tartari, ana* drac. unam semis; *Spirit. Vini rect.* unc. sex. *Infunde clausè & calidè per horas duodecem, & decant. Tinct. clara, cap. Cochlear. unum primò manè & horâ decubitus in haust. infusionis seq.*

℞ *Rad. Bardanae* unc. duas; *Sassafras* dracm. sex; *Aq. Font.* lb tres. *Infunde clausè & calidè per horas duodecem, & coletur; colatura reservetur ad usum.*

During the three days the Tincture is taking, I order 'em to take one of the following Papers of Pouder, half an hour before dinner.

℞ *Cremor. Tartari* dracm. tres; *Tart. Vitriolat.* dracm. unam semis; *Sacchari Rosati* unc. semis. *M.f. Pulvis in tres Chart. distribuend. cap. anam horâ dimidiâ ante Prandium, in haustulo Aq. Lactis.*

[If the Stomach be much paul'd, and the Patient not very feverish, I add to each Paper two or three drops of Oil of Cloves.]

After the three days wherein the Tincture is taken, I order the following Pouders to be taken for about a fortnight, four times a day at due Intervals.

℞

℞ *Tart. Vitriolati unc. semis; Cremor. Tart. unc. unam; Ol. Garriophillor. gut. xx. Sacchari Rosati unc. unam semis.*
M. f. Pul. in octo Chartulas distrib. ex quibus cap. unam horâ septimâ manè, & horâ undecimâ, horâ quartâ postmeridianâ, & horâ decubitus, in haust. infusionis sequentis.

[I here also observe, that if the Patient either already is, or be much inclined to be feverish, either totally to omit the Oil of Cloves, or to use it in small quantities.]

℞ *Rad. Eringii siccât. unc. unam semis; Lig. Sassafras unc. semis; Aq. Font. ℥ tres. Infunde clausè & calidè per horas sex, & coletur; colatura reservetur ad usum.*

In the first Draught of Beer, Ale or Wine they drink at dinner, let them take a Sweetmeat spoonful of the *Elixir Sulphuris* hereafter mentioned; [or else fifteen or twenty Drops of the following Elixir of Vitriol.

Elixir Vitrioli nr.

℞ *Garriophillor. Piperis nigri, ana uncias duas; Sp. Vini Rect. ℥ unam. Infunde clausè & calidè per dies septem; postea adde Olei Vitrioli opt. rect. unc. quatuor. Infunde iterum*

iterum per dies septem; postea decantetur [Elixir clara.]

After this Fortnight, if the foremention'd Symtoms disappear, and the Fit be put off, which for the most part it will, I order the following Medicins to be taken for about three weeks or a month, first in the morning and last at night.

℞ *Lapidis Hematitidis unc. semis; Cremor. Tart. unc. unam; Ol. Sassafras gut. quadraginti. M. f. Pul in octo chartulas distrib. ex quibus cap. unam in Cochlear. Syr. Balsamici Tolut. superbibendo uncias sex vel octo Infusionis sequentis.*

℞ *Rad. Eringii siccator. unc. duas; Sem. Bardanae, Fraxini, ana unc. semis; Aq. Font. ℥ tres. Infunde clausè & calidè per horas octo, & coletur; colatura reservetur ad usum.*

If they are at any time thirsty, let them drink plentifully of *Lemmonade*, with a small quantity of Wine in it. And since I have in other places, and shall hereafter have occasion to prescribe *Lemmonade*, lest there should be any who understand not how to make it, I shall here insert it.

Take

Take of clear Spring-Water one quart ; then pare off the outward thin Rine of two Lemmons, and put into it ; afterwards squeeze in the Juice of the Lemmons, and then sweeten it with about two Ounces of fine Sugar.

This is the most grateful Liquor in the World : but if it be too cold for any ones Stomach, it may be made a little warm with half a pint of Old Hock.

[Instead of the Lemmonade they may at any time when thirsty, drink a draught of Claret and Water well acidulated with dulcified Oil of *Vitriol* made by digestion.]

If the foremention'd Symtoms appear, and the Party be of a phlegmatic Constitution (tho very few such are troubled with the Gout) I then alter my Method, and for the first week give 'em the following Tincture, by which I have don wonderful things in other Distempers besides that of the Gout.

℞ *Gum. Guaiaci Pul. unc. duas ; Succ Li-
quiritie Hispan. in tenuissim. Taleolas
incisi uncias quatuor ; Sp. Vini Rect. ℥
unam. Infunde clausè & calidè per duos
dies, & postea decantetur Tinctura clara, cap.
Cochlear. unum primò manè & horâ decubitus in-
haust. Infus. sequentis.*

℞ *Rad. Ering. unc. unam; Sassafras dracm. sex; Vini Rhenani vet. ℥ unam; Aq. Font. ℥ unam semis. Infunde clausè & calidè per horas quatuor, & coletur; colatura reservetur ad usum.*

An hour before dinner I give 'em a Paper of the following Pouder in a draught of Milk Water.

℞ *Tart. Vitriolati dracm. duas; Cremor. Tartari unc. unam; Ol. Garriophyllor. gut. 24. Sacchari rosati unc. unam. M. f. Pul. in sex Chartulas distribuend. cap. unam horâ unâ ante prandium in haustulo Aq. Lactis.*

For about a Fortnight longer I put them into a Course of *Lapis Hematitidis*, &c. as follows.

℞ *Lapidis Hematitidis unc. semis; Cremor. Tartari unc. unam; Ol. Sassafras gal. quadragint. M. f. Pulvis in octo Chartulas distribuend. ex quibus cap. unam primò manè & horâ decubitus in Cochlear. Syrupi Balsam. superbibendo circiter uncias sex Infusionis sequentis.*

℞ *Rad. Eringii sicc. unc. duas; Sem. Bardane, Fraxini, ana unc. semis; Vini Rhenani vet. ℥ unam; Aq. Font. ℥ unam*

anam semis. Infunde clausè & calidè per horas sex, & coletur; colatura reservetur ad usum.

[And sometimes, instead of the forementioned Course with *Lapis Hematitidis*, I order the following Steel Course.

R Cardamomi, Cubeb. Galanga, Nucis Moscata, ana ʒi. sem. Cardui dracm. tres; Flor. Centaurii pug. tres; Fol. Marrubii Albi, Scordii, ana pug. duos; Calibis cum Aceto præp. unc. duas; Vini albi ℥ duas. Infunde frigidè per horas 48. postea cap. Cochlearia sex, primò manè & horâ sextâ Vesperis; coletur tempore usus.]

While they are taking these things, it will be convenient in the first Draught of Beer, Ale, Wine, or Wine and Water they drink at or just before dinner, to take a Sweat-meat spoonful of *Elixir Sulphuris*, [or else fifteen or twenty drops of the *Elix. Vitrioli*.]

If they are at any time very thirsty, they may drink Lemmonade; and if what they eat does not digest well, they may about an hour after dinner eat the Pulp of a Lemmon cut into slices, with some double-refin'd Sugar, it greatly helping Digestion, and strengthening the Stomach. [But if thro Indigestion they are much troubled with Wind, I prescribe the plentiful use of the digestive Poudre mention'd
in

Pul. Digest. Nr.

℞ *Cardamomi, Cubebar. Galanga, ana drac.
unam; Cremoris Tartari dracm tres;
Sacchari Rosati dracm. sex. M. f. pul.
digestivus in pixide reservand cap. quant. Apice
linguae lingi potest saepe in die, precipue post pran-
dium.]*

I have prescribed *Lapis Hematitidis*, which I have found in many Cases to be a noble Medicine, and more especially in this I am treating of; and since I have mentioned it, I shall presume to transcribe what *Polemanus* in his Treatise *De Sulphure Philosophorum*, says of it, the reading of which first induc'd me to try what it would do.

He thus begins. ' *Paracelsus* teaching us in
' what Subjects the *Primum Ens*, or first Mat-
' ter of Gold is to be found, which is the true
' Sulphur of the Philosophers, among other
' Subjects mentions *Lapis Hematitidis*, in which
' he says it is principally and very plentiful, it
' being impregnated with the *Primum Ens*,
' or first Matter of Gold, in all its parts; from
' whence being reduc'd into impalpable Pou-
' der, it performs wonderful things in Physic.
' To confirm the Truth of which, he says there
' was a poor *Scots-man* in the City of *Ham-
burgh*, who perform'd such wonderful Cures,
' that

‘ that the whole City was astonish’d at it; at
 ‘ last by the Envy of som wicked men, the
 ‘ poor man was poison’d, and his Loss was so
 ‘ generally lamented, that the Magistrats of-
 ‘ fer’d a very great Sum of Mony to any one
 ‘ that would discover the Murderer. This
 ‘ Scots-man (says Polemannus) used no other
 ‘ Remedy than *Lapis Hematitis* made into fine
 ‘ Pouder, and mix’d with Oil of Fennel Seeds,
 ‘ as he was inform’d by the Prince of *Anhalt*,
 ‘ to whom the Scots-man had discover’d this
 ‘ Secret.

He afterwards gos on: ‘ The Virtues of
 ‘ this *Hematitis* are so esteem’d by the common
 ‘ people of many Provinces, that they use it as a
 ‘ Panacea in all Diseases. I went to a certain Fair
 ‘ from my Father-in-law’s House at *Regiomon-*
 ‘ *tanum*, taking along with me a Country
 ‘ Servant; and going into a Merchant’s Shop
 ‘ where they sold Whetstones, Fire-stones and
 ‘ *Hematites*, my Servant humbly beseech’d me
 ‘ to give him one of those Red Stones (the
 ‘ Name of which he knew not, meaning the
 ‘ *Hematitis*) for his Fairing. I ask’d him
 ‘ to what use he would put it? Sir, says he,
 ‘ if you did but know the Value of this Stone,
 ‘ you would highly esteem it; for it is the only
 ‘ Medicin we use in all our Distempers, being
 ‘ made into Pouder, and mix’d with a little
 ‘ Vinegar. Being return’d to my Father-in-
 ‘ law’s, I inquired into the Truth of this mat-
 ‘ ter, and my Father-in-law assur’d me, that
 Y ‘ not

in my Essay, which I shall here again insert.

Pul. Digest. Nr.

℞ *Cardamomi, Cubebar. Galanga, ana drac.
unam; Cremoris Tartari dracm tres;
Sacchari Rosati dracm. sex. M. f. pul.
digestivus in pixide reservand. cap. quant. Apice
lingua lingi potest saepe in die, precipue post pran-
dium.]*

I have prescribed *Lapis Hematitis*, which I have found in many Cases to be a noble Medicin, and more especially in this I am treating of; and since I have mentioned it, I shall presume to transcribe what *Polemanus* in his Treatise *De Sulphure Philosophorum*, says of it, the reading of which first induc'd me to try what it would do.

He thus begins. ‘*Paracelsus* teaching us in what Subjects the *Primum Ens*, or first Matter of Gold is to be found, which is the true Sulphur of the Philosophers, among other Subjects mentions *Lapis Hematitis*, in which he says it is principally and very plentiful, it being impregnated with the *Primum Ens*, or first Matter of Gold, in all its parts; from whence being reduc'd into impalpable Powder, it performs wonderful things in Physic. To confirm the Truth of which, he says there was a poor Scots-man in the City of *Hamburgh*, who perform'd such wonderful Cures, that

‘ that the whole City was astonish’d at it; at
 ‘ last by the Envy of som wicked men, the
 ‘ poor man was poison’d, and his Loss was so
 ‘ generally lamented, that the Magistrats of-
 ‘ fer’d a very great Sum of Mony to any one
 ‘ that would discover the Murderer. This
 ‘ Scots-man (says Polemanus) used no other
 ‘ Remedy than *Lapis Hematidis* made into fine
 ‘ Pouder, and mix’d with Oil of Fennel Seeds,
 ‘ as he was inform’d by the Prince of *Anhalt*,
 ‘ to whom the Scots-man had discover’d this
 ‘ Secret.

He afterwards gos on: ‘ The Virtues of
 ‘ this *Hematitis* are so esteem’d by the common
 ‘ people of many Provinces, that they use it as a
 ‘ Panacea in all Diseases. I went to a certain Fair
 ‘ from my Father-in-law’s House at *Regiomon-*
 ‘ *tanum*, taking along with me a Country
 ‘ Servant; and going into a Merchant’s Shop
 ‘ where they sold Whetstones, Fire-stones and
 ‘ *Hematites*, my Servant humbly beseech’d me
 ‘ to give him one of those Red Stones (the
 ‘ Name of which he knew not, meaning the
 ‘ *Hematitis*) for his Fairing. I ask’d him
 ‘ to what use he would put it? Sir, says he,
 ‘ if you did but know the Value of this Stone,
 ‘ you would highly esteem it; for it is the only
 ‘ Medicin we use in all our Distempers, being
 ‘ made into Pouder, and mix’d with a little
 ‘ Vinegar. Being return’d to my Father-in-
 ‘ law’s, I inquired into the Truth of this mat-
 ‘ ter, and my Father-in-law assur’d me, that
 Y not

‘not only the Poor of the Place where he liv’d,
 ‘bnt for many Miles distance, made use of *Hematites* in all their Diseases.

‘The Signature of *Hematitis* dos indicat its
 ‘Golden Virtues, not as to its external Appearance, but after it has bin dissolv’d. If you
 ‘make an *Aqua Regis*, by distilling Spirit of
 ‘Niter from Sea-Salt (the common *Aqua Regis* made of *Aqua Fortis* and *Sal Armoniac*
 ‘will dissolve little or nothing of it) and dissolve in it som *Hematitis* made into fine Pouder,
 ‘and in the same *Aqua Regis* dissolve som pure
 ‘Gold; if you compare the two Solutions together, you will find little or no difference,
 ‘only the Solution of the *Hematitis* in its
 ‘sparkling Gold Color seems to outdo the other. Do not admire, friendly Reader, that
 ‘with *Paracelsus* I allow the *Primum Ens*, or
 ‘first Matter of Gold to be contain’d in other
 ‘Subjects besides that of Gold it self. And that
 ‘they do contain the said *Primum Ens*, or Sulphur of the Philosophers, their manifold Virtues witness. Thus far *Polemanus*, the Expositor of *Helmont*.

I have hitherto but just entred into the
 Porch, proposing a Method to stave off this
 cruel Tyrant on the first notice of his appearance: and *Principiis Obsta*, is what every prudent man ought to observe; it’s easier to keep
 an Enemy out of a City, than to drive him
 out after he has taken possession.

I have rarely known violent Purgers do any service (tho frequently a great deal of mischief) either in the first approaches of this Distemper, or after the morbid Matter has fix'd upon any part. But gentle Lenitives and proper Alteratives are things that will do us service. What I have prescrib'd has generally that effect, gently throwing off all the excrementitious Particles by the proper Emunctories, altering the ill habit of the Blood and Juices, and confirming the Tone and Texture of the Parts.

I shall now procede to the Cure of the Distemper it self, the taming of this fierce and angry Lion, the expelling of the raging Tyrant, the cutting off this *Hydra's* Heads.

The Indications of Cure during the time of a Fit are twofold.

First; The easing and taking off the most intolerable Pain.

Secondly; The correcting and carrying off the morbid Matter.

Both which things the following Method will very rarely fail to effect.

When I com to a Patient who has a Fit of the Gout, let it be a regular or irregular one it matters not, the Indications of Cure, and the Matter causing the Distemper being the same; respect must be had to the Age and Constitution of the Patient, and his former way of living; and according as these vary,

in som respects the Prescriptions must be vary'd. But my Design being to give a general account of the cure of the Gout, I leave those little Variations that are to be made to the Judgment and Discretion of every Physician.

I first of all, if there are Indications that require it, as generally there be, prescribe Bloodletting from 12 to 20 Ounces, more or less, as occasion requires. I afterwards order the following Medicins to be taken once in four hours; [the Doses of which are either to be lessened or increased according to the Strength and Constitution of the Patient: but this ought always to be observed, that they must be given in such quantities, as to occasion two, three, or four Stools in twenty four hours. Now the Strength and Constitutions of People being so various, it is impossible to prescribe a determinat quantity for every body in a general Treatise. But the generality of Physicians having given *Cremor Tartari* and *Tartarum Vitriolatum* in such inconsiderable Doses, I have chosen to proportion my Doses of them for the strongest Bodies, that I might excite my Brethren to a more liberal use of 'em.]

℞ *Cremor. Tartari unc. unam; Tartari Vitriolati dracm. duas; Ol. Garriophilor. gut. viginti. M. f. Pulvis in quatuor Chartulas distrib. ex quibus cap. unam quartâ quâque horâ in Cochlear. syrup. Bals. Tolutani, superbibendo uncias quatuor Infusionis sequentis.*

℞

℞ *Rad. Eringii sicc. unc. duas; Lig. Sassafras dracm. sex; Aq. Font. ℥ tres. Infunde clausè & calidè per horas sex, & coletur; colatura libris duabus, adde Elix. Sulphuris dracmas tres. M.*

Let them drink for their constant Drink the following Julep.

℞ *Vini Rhenani veteris, Aq. Fontan. ana ℥ unam semis; Elix. Sulphuris unc. semis; Sacchari Albissimi unc. unam semis. M. f. Julap. cap. pro potu ordinario.*

For change sake, by reason that People are subject to be tired with the constant use of any one thing, instead of the former Julep for their constant Drink they may drink either Lemmonade, or Barly-water acidulated with Oil of Sulphur, and sweetned with double-refin'd Sugar; [or else Claret and Water, sweetned with Sugar, and acidulated with dulcified Oil of *Vitriol*: and frequently I allow 'em to drink a Glass or two of Claret alone.]

To take off the Pain, I apply the following Balsam to the Part affected twice a day, to wit morning and evening, till the Pain abates or goes off. I order it to be used in the following manner: Let som of it be applied to the Part affected, and with a warm hand be rub'd in in for a quarter of an hour; then apply a

piece of soft brown paper, and upon that Flannel Cloth three or four double. After using this two or three times, there will little Heals and Blisters arise on the Part, from which for the most part is discharg'd a very great quantity of acrid Serum. The Virtues of this Balsam are so great, especially in this Case, that it deserves to be written in Letters of Gold, and yet the Preparation of it is most simple and easy, as all good Medicines are.

℞ *Olei Olivæ unciæ octo, Olei Vitrioli optimè rectificati unciæ duas; optimè misceantur in Vase vitreo, Collo aperto, & statim fiat Balsamum rubicundissimum.*

If the *Oleum Vitrioli* be not exactly well rectified and very strong, they will not mix; but if it be, they will immediatly be converted into a Balsam as thick as Treacle, and after it has stood a month or six weeks, it will become of the consistence of *Lucatully's* Balsam with a greyish Coat on the top. I have already communicated this to many people, and receiv'd Thanks for it from several parts of *England*.

Besides the foremention'd Balsam, the following *Lixivium* is an admirable thing; I have known it do wonders sometimes: but I am afraid it is not so much to be relied on as the Balsam is, tho by the use of it alone I have known Gouts of half a year's standing cured.

℞ *Urina Vacca libras quatuor, bulliatur parum; tunc adde Salis Marini libras tres, & iterum bulliantur donec Sal dissolvitur; cum hoc Lixivio optimè foveantur partes affectæ, relinquendo in partes pannum laneum calidum ter duplicatum, in Lixivio madefacto & Liquore cum manibus fortiter expresso.*

Let this be repeated morning and evening till the Pain is abated and gon.

[For near these two years I have not at all used the *Lixivium*, but always relied either on the Balsam or one of the following Medicins: and to People whose Skins are very tender, I have chose rather to use one of the following Medicins than the Balsam; and in some Cases where the Pains have bin extreme, and the Tone of the Parts much spoiled, I have made use of both, first the Fomentation, and then the Embrocation, applying afterwards a warm Flannel Cloth.

The Fomentation.

℞ *Flor. Sambuci, Chamomilla, ana M. unum; Flor. Anthos, Lavendula, ana M. ss. Aceti Vini Albi, vel Pomor. Sylvest. lb tres. Infunde clausè & calidè in vase terreo vitriato, per horas tres, & coletur; cum colaturâ foveantur partes affectæ bis in die, superponendo pannum laneum.*

The Embrocation,

℞ *Ol. Vitrioli Dul. per digest. fact. unc. unam; Sp. Vini Com. unc. octo. M. f. Mixtura, cum quâ embrocentur partes affecta manè & serò, superponendo pannum laneum.]*

Neither of these things will relax the Tone of the Parts, nor repel the morbid Matter; but will mortify and correct the one, and confirm the Tone and Texture of the other.

Till the Violence of the Pain is somewhat abated, I every night give an Opiat, either in a liquid or solid Form. As for instance.

℞ *Aq. Lactis Alex. unc. duas, Mirabilis dracm. tres; Syr. Papaveris Rhead. unc. semis; Laud. liquidi gut. xx, xxx, vel xl. Ol. Sulphuris per Campan. gut. aliquot ad acidum saporem, f. haust. horâ somni assumend. Vel,*

℞ *Theriaca Androm. dracm. ii. Tart. Vitriolati dracm. semis; Laudani Opiati gr. duo. M. f. bolus hora somni assumend. Vel,*

℞ *Diacodii unc. unam, unc. unam semis, vel unc. duas; Olei Sulphuris per Campan. q. s. ad moderatam aciditatem, cap. hora decubitus.*

The

The Dose of *Opiats* may be greater or less, according as people have bin accustom'd to take them; for the more people have bin used to take *Opiats*, the larger quantity they require.

I use *Opiats* on no other score, than to gain time, to stupify and blunt the Senses, till other Medicins can take place: Tho very frequently, nay for the most part I have no occasion to use them at all. [And if people will but be perswaded to omit the use of them, their Fits will always be the shorter; and when they are off, will leave them much more vigorous and strong, than when *Opiats* are used. And therefore of late I have with all imaginable industry endeavored totally to avoid them.]

During this time I forbid the use of Milk, and all Milk Meats, they being very pernicious; but once a day I allow a moderat Meal of any Meat of very easy digestion, if their Stomachs crave it: otherwise order them to eat somtimes Watergruel, or Barlygruel, and somtimes Chicken or Veal Broth; and in every Porringer of either of the said things, instead of common Salt, to put about a quarter of an ounce of *Cremor Tartar*, [or else acidulat it with Juice of Orange or Lemmon.]

When the Violence of the Distemper is in som measure abated, which in som people will be in a short time, in others a longer, according

ing as Nature is more or less debilitated, and the Matter of the Distemper more or less: I say, when the violence of the Distemper is abated, then the foregoing Method must be alter'd, and the following Medicins used.

℞ *Lapidis Hematitidis unc. semis; Cremoris Tartari unc. unam; Ol. Sassafras gut. 40. M. f. Pul. in quatuor Chartulas distribuend. cap. unam primò manè & horâ decubitus, in Cochlear. Syrup. Balsam. superbibendo haust. Infusionis sequentis.*

℞ *Rad. Bardanae siccatae unc. quatuor; Baccar. Junip. unc. tres; Sem. Bardanae, Fraxini, ana dracm. tres; Lig. Sassafras unc. sem. Aq. Font. bullientis ℥ quinque. Infunde clausè & calidè per horas sex, & coletur: Colaturæ sing. libris duabus, adde Elix. Sulphuris dracm. duas. M.*

These things will cause gentle and easy Evacuations, correct the Luxuriant Alkalious Particles, and confirm the Tone of the Parts.

Instead of the foregoing Medicins, I sometimes give these which follow.

℞ *Cinabaris fact. com. optimè levigat. unc. semis; Gum. Guaiaci dracm. tres; Conf. Cynosbati unc. unam semis; Syr. Sambuci q. s. f. Elect. cap. quant. Nucis Moscatae primò manè & horâ decubitus, superbibendo uncias sex vel octo Infusionis sequentis.*

℞

℞ *Rad. Bardanae siccatae. unc. quatuor; Baccar. Juniperi unc. tres; Bardana, Fraxini, ana unc. semis; Lig. Sassafras dracm. sex; Aq. Font. bul. libras quinque. Infunde clausè & calidè per horas sex, & coletur; Colaturæ libris duabus adde Sp. Ligni Guaiaci optimè rectificati unc. semis. M.*

These Medicins as well as the former, will cause plentiful and easy Evacuations, without weakning the Patient, or pausing the Appetit; and tho sometimes they work briskly, yet at the same time the Patient will gather strength. Now according to the best of my Observations, all that is requir'd in the Cure of a Chronical Distemper, is to cause plentiful Evacuations, without weakning the Patient; which intention the foresaid Medicins will seldom or never fail to answer: and I do not question, but whoever shall think fit to try them, will find I say no more than truth.

If the Medicins given at the first beginning of a Fit do at any time make people go to stool too often, I then order them to drink freely of an Infusion of Oak Bark, which greatly confirms the Tone of Animal Substances.

℞ *Cort. Querci siccatae. & contusae. unc. quatuor; Aq. Font. Tep. libras tres. Infunde per noctem, & coletur.*

Upon

Upon the going off of this Distemper, in people of a Cachectic habit of Body, a Course of *Calibeats* is very proper, and rarely fails doing good service ; but before we begin with Calibeats, the Pains must be quite off. The Calibeat Course I generally prescribe, is as follows. But in all general Courses respect must be had to particular Constitutions ; and according as they vary, so must our Prescriptions. But since it is impossible to adapt every thing to the many various Constitutions of men, that must be left to the Judgment and Experience of the Physician who is upon the spot ; but generally speaking the following Course dos very well agree with most people.

℞ *Calibis cum Tart. præp. unc. semis ; Castorei de Russia, Salis Succini, ana scrup. duos ; Nucis Moscatæ, Cardamomi, ana dracm. unam ; Conser. Salvie unc. duas ; Syrup. Garrioph. q. s. f. Elect. cap. quant. Nucis Moscatæ, primò manè & horâ quartâ pomeridianâ, superbibendo haust. Infusionis sequentis.*

℞ *Cardamomi, Cubebarum, ana drac. duas ; Cort. extern. Aurantior. drac. tres ; Gentianæ dracm. unam ; Flor. Centaurii pug. duos ; Vini Rhenani veteris libras tres. Infunde clausè & calidè per horas sex, & coletur ; Colatura reservetur ad usum.*

These

These Medicins must be taken for at least a month, or longer, as there may be occasion; but, as before observ'd, must not be taken till the Pains are quite off.

Instead of the foregoing Steel Course, especially to Women, I give that which follows, which opens their Obstructions, and reduces their Bodies to a good habit.

℞ *Calibis Nr. cum Sale Armoniato præp. unc. semis; Myrrhæ Elect. dracm. tres; Ol. Nucis Moscatæ gut. xx. Extract. Gentianæ q. s. f. Massa; ex qua formantur Pil. magnitudinis Pisæ minoris, cap. N^o. quatuor primò manè & horâ quartâ pomeridianâ, superbibendo haust. Infusionis sequentis.*

℞ *Fol. Persicariæ siccæ. M. duos; Flor. Centauria P. duos; Cort. extern. Aurant. dracmas duas; Rad. Gentianæ drac. duas; Aq. Font. bullientis libras quatuor. Infundæ clausè & calidè per horas quatuor, & coletur; Colatura reservetur ad usum.*

During the time that people are in either of the foremention'd Steel Courses, it will be convenient they take a small Sweet-meat Spoonful of the *Elixir Sulphuris* [or else fifteen or twenty Drops of the *Elixir Vitrioli*] in the first Draught either at, or just before Dinner; and that they use such moderat Exercise as will
warm

warm them, but not make 'em sweat. But of all Exercises, riding on Horseback is the very best, it putting the whole Body into motion without spending the Spirits. [Note, that when People are in a steel Course, if they find the least return of their Pains, they must immediatly leave it off, and have recourse to the *Cremor Tartari*, and *Tartarum Vitriolatum*, &c. and when the Pains are gon, then to the Steel again.]

To som people especially, if subject to Coughs, I prescribe for at least a Month, a Spoonful of the forementioned Tincture, made with *Gum Guaiaci* and Spanish Juice of Liquorish, to be taken first in the morning, and last at night in a Draught of the following Infusion, after the Distemper is perfectly gon off.

℞ *Rad. Eringii sicc. unc. duas ; Enule Campan. unc. unam ; Bals. de Tolu drac. duas ; Vini albi ℥ tres. Infunde clausè & calidè per horas sex, & coletur ; Colatura reservetur ad usum.*

The Cure of Diseases depends upon Observation ; and every Physician who expects success in his Practice, must nicely consider his Patient's Constitution, and give those Medicins that are most suitable to it. That Medicin which will cure the same Disease in one Constitution, may not do it in another. Up-

on which score I have bin obliged to vary my Prescriptions; not but that the general Basis of 'em all is the same, they being all Acids, but of different kinds, suited to the different Palats and Stomachs of my Patients: and there is not any one Part has a nicer sensation than the Stomach, as every days Observation makes appear. The Doses of the Medicins prescrib'd must be either lessen'd or augmented as there is occasion.

All people are not to expect a Cure in the same instant: I have known several times, that once application of the Balsam, without any internal Medicin at all, has perfectly taken off a violent Fit; when at other times, Fits that have not appeared to be near so violent, have bin a fortnight or three weeks before the Pain has quite gon, tho there has bin a constant and regular use both of external and internal Medicins. But tho the external Medicins will, without repelling, somtimes take off a Fit, without the use of any internal ones at all, yet I dare advise no one to rely upon them, but at the same time to use internal Medicins to strike at the Root of the Distemper; and after the Pain is quite gon, to prosecute the foregoing Directions.

This is all I think convenient to say upon this Subject at this time; and from what I have said, I believe I have given as clear hints, nay much clearer than ever were yet given
con-

concerning the Cure of this troublesom Distemper, which has hitherto bin so vainly attempted.

The Medicins I have prescrib'd are but very few, and many of 'em very well known; but I am almost positive were never before prescrib'd in the manner I have don. There is nothing that will in the least put any force upon Nature, and therefore none need be afraid of trying the Efficacy of my new Method. Had I prescribed much and violent Purgings, Vomits, Bloodletting, and such Courses, wherein there was any great hazard and danger, people would have all the reason in the World to be cautious and fearful: But there is no such thing, there being no one Medicin that has not a tendency to confirm and strengthen the Tone of the Stomach, and of all the parts of the Body, to create an Appetit, and to excite Nature to throw off any load of excrementitious Matter that may chance to be lodged on any Part.

[I have bin as faithful in my relations as possible; and the Directions I give are such as I have found successful. And I thank God the first Edition of this Book has bin useful to many honest distressed Gentlemen; and I doubt not but this will have the same effect.]

C H A P. V.

FOR a farther clearing of the Truth of my Hypothesis, I shall insert two or three Cases, and with them shall conclude this Treatise, which is already swel'd to too great a Bulk.

Case the First.

A Person who for fourteen or fifteen years had bin most miserably afflicted with the Stone in the Kidneys, and a general ill Habit of Body, was on the 4th of July 96, seiz'd with the Gout in the Wrist of his right hand, presently afterwards in the Instep of his left Foot, then in the Instep and Toes of his right foot. When he sent for me, being the 6th, he was in the most intolerable Pain and Misery in which it was possible for a poor Creature to be, and support himself under it. I ordered him to drink Lemmonade for his constant Drink, and to take the following Pouders once in four hours in a draught of Watergruel.

℞ *Tart. Vitriolati dracm. tres; Cremor. Tartari unc. unam; Sacchari Alb. unc. unam. M.f. Pul. in quatuor chartulas distrib.*

Z

And

And to apply the Balsam before mention'd to each affected Part night and morning, rubbing it in with a warm Hand; then to apply a piece of thick white Paper, and upon that Flannel Cloths two or three double. The 7th it lodg'd it self in the right Knee, and in both his Hips: his Pains were most intolerable, and he so fixt to his Bed, that he could not stir or move Hand or Foot, or suffer the Clothes to touch him. At the same time he had a violent Fever, which seiz'd him at the beginning of his Illness; which was greatly increased by the violence of his Pain, his Tongue being extremely black and rough. I order'd the Balsam to be applied again to all the affected Parts, and likewise ordered him to take a small Sweatmeat Spoonful of the following Elixir (which is the *Elixir Sulphuris* so often mention'd before) in a Glas of White-wine w^hen ever he was fainty, or complain'd of a sickness in his Stomach.

Elixir Sulphuris.

℞ Olci Sulphuris per Campan. unc. duas;
 Spirit. Vini opt. rect. ℥ unam; Sacchari
 Cand. Alb. unc. duas; Garriophyllorum, Maceris,
 ana dracm. sex. M. & digerantur in Matraccio
 optimè clauso, in leni calore Arena, per dies
 decem; tunc decantetur Tinctura clara, quæ re-
 servetur ad usum in Phiola optimè clausa.

By

By the way, this is as noble a Medicin in most feverish Distempers, and as good a Stomachic as most in the World. I have several times don wonders with it alone.

The 8th he continued in the same state, but his Pains somewhat abated; so I order'd the repetition of his former Medicins.

The 9th he was seiz'd with a violent Looseness, but his Pains much abated. I repeated his former Medicins, only added to each Dose of Pouder four drops of Oil of Cloves, and instead of Watergruel, to take it in a Spoonful of Balsamic Syrup, and drink after each Paper a draught of the following Infusion.

R. Rad. Eringii sicc. unc. duas; Lig. Sassafras drac. sex; Ag. Font. lb. tres. Infunde clausè & calidè per horas tres, & coletur; Colatura libris duabus adde Elix. Sulphuris drac. duas, Syrup. Balsam. unc. duas. M.

The 10th his Pains had almost left him, and his Fever gon, but his Looseness continued, to which I did not see any cause to give a check at that time; so I repeated his Medicins as before.

The 11th his Pains were quite gon out of his Joints, but he had a very great deal of Pain in the bottom of his Back, and his Looseness continued. I then order'd him to leave off using the Balsam, not thinking fit to have it

applied to his Back (tho I have oftentimes applied it to that part with good success) supposing his Pain there might procede from his Loosness; but I order'd the repeating of the other Medicins.

The 12th his Loosness continued, but no returns of his Pains; and his Appetit, which before was lost, came to him. I order'd him to continue the use of his Pouders, and to take the Elixir as oft as he was fainty; and tho by reason of his Loosness he was somewhat fainty, yet I durst not put a sudden stop to it, for fear of the return of his Pains, but to check it by degrees, I order'd him to take the following Mixture last at night, and to drink a Draught of the Infusion two or three times a day.

℞ *Diafcordii dracm. duas; Elix. Sulphuris dracm. semis; Vini albi uncias tres. M. f. Mixtura horâ somni assumend.*

℞ *Rad. Eringii sicc. unc. duas; Cort. quercus sicc. unc. duas; Aq. Font. ℥ tres. Infunde calidè per horas sex, & coletur; Colatura reservetur ad usum.*

The 13th, 14th, 15th, 16th, and 17th, he continued to take the Pouders and Elixir; the Mixture at night, and the Restraining Infusion. His Loosness gradually went off; and as that abated, so did the Pains in his Back. He eat with a good Appetit, and gather'd strength:

strength: his constant Drink all this time, when thirsty, was either Lemmonade, or Barlywater acidulated with Oil of Sulphur.

The 19th, instead of his former Pouders, I gave him the following ones with the Infusion: I order'd the leaving off all other Medicins, except the *Elixir Sulphuris* before dinner, or if at any time he was fainty.

℞ *Lapis Hematitis unc. semis; Cremor. Tart. unc. unam; Ol. Sassafras gut. 40. M. f. Pul in quatuor chartulas distrib. cap. unam primò manè & horâ septimâ vesperi, in Cochlear. Syrup. Balsam. superbibendo haust. Infusionis sequentis.*

℞ *Rad. Bardana Sic. unc. quatuor; Baccar. Juniperi unc. tres; Sem. Bardanae, Fraxini, ana dracm. tres; Lig. Sassafras drac. sex; Aq. Font. bul. ℥ quinque Infunde clausè & calidè per horas sex, & coletur; Colatura sing. ℥ duobus, adde Syrup. Balsam. unc. duas, Elix. Sulphuris dracm. duas. M.*

These things he continued to take for a month, with the desired success.

This was the most dreadful Fit of the Gout I ever saw, and was taken off in as little time; and had not the Medicins well suted with the Distemper, to have abated the violence of the raging Pain, I verily believe he had never got over it.

Case the Second.

About the beginning of *January* 95, I was sent for to a Gentlewoman, who of a twelve month had scarce bin free from the Gout in som part or other; and at certain times had very great Effusions of Blood from her Nose, which were not to be stop'd but with the greatest difficulty. She being somewhat free from Pain (tho very lame) at the time when I came to her, I order'd her to take the following Medicins, first in the morning, and last at night, to prevent the return of her Pain; and if at any time she was sensible of the least Pain in any part, immediatly to apply the Balsam, according to the former Directions.

℞ *Tart. Vitriolati unc. semis; Cremor. Tart. unc. unam; Sacchari Alb. dracm. sex. M. f. Pul. in octo chartulas distribuend. ex quibus cap. 1. primò manè & horâ decubitus in haust. Infusionis sequentis.*

℞ *Ligni Sassafras unc. unam; Aq. Font. bul-
lientis ℔ duas. Infunde clausè & calidè
per horam unam vel alteram, & coletur; Colatura
reservetur ad usum.*

She has continued to take these things almost ever since, and has never had one Fit of her Distemper, nor a return of her Bleeding; she has

has two or three times had a little Pain, which has bin presently taken off by the use of the Balsam.

I could give a great many instances of this nature, wherein by the same Method I have stav'd off Fits from invading Persons at the times they were wont to do: As also of the taking off the most violent Pains, when people have had a Fit upon them, in a very short time. But in so doing, I should swell this Piece to too great a bulk, when it is already larger by much than I at first design'd it; therefore I shall conclude all with this Premotion.

That Person may be said to cure any Distemper, the greatest number of whose Patients recover: The failure in som few Cases is no argument of want of Skill. Every body knows that the *Cortex Peruviana*, given at due seasons, and in proper quantities, will cure Agues; yet there are som few Agues that will elude the efficacy of it, tho given with never so much caution and circumspection: Yet for all that, the Cortex will still be accounted (as there is all the reason it should) the greatest and the most certain Specific ever publicly known in the Cure of Agues, by reason there are very few Agues but what are to be cur'd by it. There are som people, who upon the taking of *Opium* are certain to lie awake the whole Night following: Yet its failing to make som few people sleep, dos no

way hinder but that Physicians may prescribe Opium, or som Preparation of it, to their Patients when they want rest, by reason there are very few to whom it is given, that it will fail of making sleep when they stand in need of it, tho oppress'd and tormented with the greatest pain. The Method I have laid down for the Cure of the Gout may fail in som few persons, especially if not rightly and exactly follow'd: but for my own part I have not known it fail above two or three times; and those failures I have great reason to believe, were rather to be imputed to the Irregularity and Perverseness of the Patients, than the Insufficiency of the Medicins. Well, but suppose they should fail in som few people, must they therefore be laid aside? By the same reason the Cortex should be laid aside in Agues, and Opium for the making people sleep, because they sometimes fail of answering the end for which they were given. I don't question, but with due caution and circumspection the Method I have laid down will as certainly cure the Gout, as the Cortex an Ague, or Opium make people sleep; which, because they so rarely fail to answer those Intentions, they will always be depended on.

I was going to put a *Finis* to all, but cannot do it before I have taken notice of the great Misfortunes I labor under. I have made it the business of my Life rightly to understand
the

the nature of the Juices of Human Bodies, both in their natural and morbid state, and by that means to be capable of doing something more than other people. Certainty has bin what I have aim'd at ; and it will appear to every unprejudiced person by what I have said in the Introduction to this Piece, that the foundation on which I have built my Practice, is solid and substantial. But my Misfortune has hitherto bin, That if any Patient of mine has chanced to die, or any one has not bin cur'd of a Chronical Distemper by almost merely looking upon them, immediatly an Outcry has bin rais'd, That I know nothing, or that I have killed my Patient. Nay, it's com to that pass now, that if I do but chance to look upon a Patient, tho I prescribe nothing for them, if they die, notwithstanding they were expiring before I saw them, presently there's a Noise that I have kill'd them. I expect the same Treatment in this case. If any one shall try my Methods in the Cure of the Gout, and be not presently freed from their Pains (as if Chronical Distempers were to be cured with a Charm, by merely looking on them) it will immediatly be spread abroad, that I am in the wrong, tho I have given such plain Demonstration that the Foundation on which I build my Practice, is right : and one instance of my Method's failing, tho there have bin never so many Irregularities committed, shall do

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do me more mischief, than a hundred substantial Cures will do me good. To this sort of Treatment I have bin so long used, that I have great reason to fear the same again hereafter. But let my Treatment be what it will, I will never leave off prosecuting the Cause of Truth, and doing good in my Generation to the utmost of my power,

S O M

S O M

Medicinal Observations

Concerning the

Cure of Fevers, &c.

By the means of *Acids*.*Observation the First.*

MAT the Fourth, 96. I was sent for to a Gentlewoman of great worth; who for som months had bin subject to a Hectic Fever, with a continual Faintness, and a depression of her Spirits. About the 24th of *April* she was taken with a violent inflammatory Fever, which had som small remissions; she was treated by another Physician with *Cortex Peruvianus* and *Bezoardics* in extravagant quantities, and brought just to Death's door by 'em. She had frequently very violent Convulsions; and when they went off, a continual languor: she was fainty and weak

weak to the last extremity, even so weak, that she could not turn her self in her Bed; and tho she had every night taken *Diacodium* largely, she had not slept for eight or ten days and nights, not so much as one hour, her Spirits being put into such a hurry and confusion. Her Physician had given her over for dead, and I was brought in only to look upon her, and see her expire. But seeing her Relations all in Tears, bewailing the great loss they were like to have, I told 'em there were still som sparks of hope, and that plentiful quantities of Acids might go near to retrieve her; upon which they immediatly beg'd me to try what might be don: so I prescribed her the following Medicins.

℞ *Tart. Vitriolati* dracm. tres; *Crem. Tart. unciam semis*; *Salis Succini* drac. semis; *Rad. Peonia* dracm. unam; *Castorei* dracm. semis; *Sacchari Alb.* dracm. sex. *M. f. Pul. in sex chartulas distrib. ex quibus cap. unam tertia quâque horâ in Cochlear. Julap. sequentis, superbibendo haust. ejusdem.*

℞ *Aq. Pulegii, Ruta, ana unc. sex*; *Gas. Sulphuris unc. quatuor **; *Aq. Hister.*

* [Note that *Gas Sulphuris* is a Medicin made of very different degrees in Strength; therefore the quantities prescribed must be greater or less, according as it is more less strong: and the most certain way of prescribing it is in such a quantity as may make the Vehicle in which it is given moderately sharp.]

*unc. quatuor; Castor. in Nod. inclus. scrup. duos.
M. f. Julap.*

*R Sp. Lavendulae, Gas. Sulphuris, ana
uncias duas; Aq. Hister. uncias quatuor.
M. f. Mixture, cap. Cochlear. unum in Languo-
ribus.*

The *Fifth* in the morning I visited her, and found her Symtoms greatly abated; ^{she} had had two or three stools, and slept about ^{ten} hours. I order'd her to persist in the use of her former Medicins.

The *Sixth*, her Convulsions had quite left her, her Fever greatly abated, and she had slept tolerably well the precedent Night: I order'd her to persist in the use of her Medicins, as before, and to drink plentifully of the following Julap when thirsty; and to eat Lemmons and Oranges in as plentiful a manner as she pleased.

*R Aq. lactis Alexiter. libras duas; Cinna-
momi fortis uncias duas; Syrup. Lujula
unc. tres; Ol. Vitrioli Dil. q. s. ad moderatam
aciditatem, cap. liberè & largos haustus.*

The *Seventh*, her Spirits were in a great measure com to her, and her Fever going off; but she was somewhat costive, which created a disorder in her Head: I therefore order'd the following Clyster, with the repetition of her former Medicins.

R

℞ *Decoct. com. pro Clysteribus uncias duodecem; Elect. Lenitivi unc. unam; Syrup. Violar. unc. unam sem. Salis Com. pug. duos. M. f. Enema.*

The Clyster work'd very briskly, and therefore that night I gave her the following Draught.

℞ *Aq. Lactis unc. duas, Mirabilis dracm. tres; Gas. Sulphuris dracm. duas; Laud. liquid. gut. 20. Syr. Papaveris Rhead. unc. sem. M. f. haust. horâ somni assumend.*

The Eighth, I found her greatly recover'd, and her Appetit began to com to her: I allowed her to eat any thing of easy digestion, and order'd the repetition of her Pouders and Julap, and Cephalic Mixture.

By the Twelfth, thro the foresaid Method, her Fever was quite gon. I then prescrib'd the following Purge to be repeated once in two or three days.

℞ *Rezina Jallap. gr. x. Crem. Tartari gr. xv. Antimonii Diaphoret. gr. xii. Conf. Cynosbati q. s. f. bolus cap. primò manè cum regimine.*

The Night following I order'd the following composing Draught.

℞

℞ *Aq. Lactis unc. duas, Mirab. unc. semis ;
Laud. Liquid. gut. xx. Ol. Sulphuris gut.
v i. Syr. Papaveris Rhaad. unc. semis. M. f.
haust. horâ somni assumend.*

She having for som time before this Illness
bin subject to Histerical Indispositions, I pre-
scrib'd the following Steel Course, to be con-
tinued for three weeks, or a month: But be-
fore she enter'd upon it she was perfectly well
of her Fever, and went abroad.

℞ *Calibis cum Tart. præp. unc. sem. Car-
damomi, Cubearum, ana dracm. unam ;
Salis Succini, Castorei, ana scrup unum ; Conf.
salvia unc. unam sem. Syr. Peoniae q. s. f. Elect.
cap. quant. nucis moscata primò manè & horâ
quintâ pomeridianâ, superbibendo unc. quatuor
Vini medicati sequentis.*

℞ *Cardamomi, Cubearum, Galangæ, ana
dracm duas ; Gentianæ dracm. tres ; Ca-
libis cum Tart. præp. dracm. duas ; Vini Rhena-
ni veteris libras duas sem. Infunde clausè &
calidè per horas sex, & coletur ; Colatura re-
servetur ad usum.*

By the means of this Calibeat course she
was perfectly freed from her Histerical Indis-
position.

Obser-

Observation the Second.

June the Sixteenth, I was sent for to a young Gentleman of a very gross habit of Body, who was seiz'd with a violent Fever, and upon the first attacks of the Distemper was convulsive and delirious, with violent Vomiting. I first of all order'd large quantities of *Carduus* Posset-drink to bring off that load of viscous Phlegm with which his Stomach was over-charg'd: about two or three hours after his Vomiting was over, I prescrib'd Blood-letting to twelve or fourteen Ounces, and that he should take the following Medicins.

℞ *Tart. Vitriolati dracm. unam; Cremor. Tartari, Salis Prunelle, ana dracm. tres; Sacchari Albi unc. unam. M. f. Pul. in sex chartulas distrib. ex quibus cap. unam secundâ quâque horâ in Cochlear. Julap. sequentis, Superbibendo haust. ejusdem.*

℞ *Aq. Lactis libram unam; Syrup. Lujule unc. unam; Ol. Vitrioli dul. q. s. ad moderatam aciditatem. M. f. Julapum.*

℞ *Aq. Hordei ℥ duas, Mirabilis uncias duas; Syr. de Rubo Idæo uncias tres; Ol. Sulphuris gut. xxx. M. f. Julap. cap. pro potu ordinario.*

The

The *Seventeenth* he continued much in the same state, only his Convulsions abated, his Urin was crude and undigested, and he had two or three stools. I order'd the repetition of his former Medicins.

The *Eighteenth* his Convulsions were quite gon, but his Head and Face were mightily swell'd and inflam'd: His Vomitings had quite left him, but he continued loose, to which I did not think fit to put a stop, by reason he was a Person of a very gross Body. I ordered a large Vesicatory to be applied to his Neck, and that he should persist in the use of his former Medicins.

The *Nineteenth*, the swelling and inflammation of his Head and Face increased; he had a great difficulty in making Water, occasioned by the application of the Vesicatory, and his Loosness still continued. I prescribed the following Medicins.

℞ *Sem. Quatuor. Frig. M. ana dracm. duas;*
Papaver. alb. unc. semis; Amygdal. dul.
Decort. dracm. sex; Aq. Hordei libras duas,
f. Emulsio S. A. addendo Syr. Althææ unc. duas:
cap. liberè & largos haustus.

℞ *Cremor. Tartari, Salis Prunella, ana*
dracm. duas. Ol. Garriophyllor. gut. octo;
Sacchari Rosati unc. semis. M. f. Pul. in qua-
tuor Chartulas distribuend. ex quibus cap. unam

A a

tertiâ

tertiâ quâque horâ, in cochleari Julap. sequentis, superbibendo haust. ejusd.

*Rx Aq. Cinnamomi Hord. libram unam ;
Syr. Lujula unc. unam ; Ol. Vitrioli dul.
q. s. ad moderatam aciditatem. M. f. Julap.*

*Rx Aq. Cinnamomi, Mirabilis, ana unc.
duas ; Aq. totius Citri unc. quatuor ;
Ol. Sulphuris gut. decem ; Syrup. Garrioph. unc.
semis. M. f. Cardiacum cap. cochlear. quatuor
vel quinque in languoribus.*

The *Twentieth*, his Head and Face were all over in one continued Blister ; his Fever began to abate, his Loosness stopt, and his Urin tolerably well digested, but his Strangury continued. I order'd the repetition of his Emulsion, with the other Medicins.

The *Twenty first*, his Fever was in a manner totally gon, his Strangury quite left him, and the Urin he made of a very good color, with a settlement in the bottom ; and from the Blisters of his Head and Face were discharged large drops of an acrid Alkalious Liquor. I forgot to mention that the Serum of his Blood did turn a solution of Syrup of Violets from a blue into a very deep green Color, which was a plain indication that his Blood abounded with Alkalious Particles, and was the occasion of the Febril Fermentation ; to allay which I thought it absolutely necessary

to prescribe a plentiful quantity of proper Acids, and from the beginning I directed him to eat as many Oranges and Lemmons as he pleased. I order'd the repetition of the former Medicins.

The *Twenty second*, his Fever was perfectly gon, and his Blisters almost fallen, he began to have an Appetit; upon which I allow'd him to eat som boil'd Chicken or Whiting. I order'd him the following Medicins.

℞ *Crem. Tartari, Salis Prunelle, ana*
dracm. tres; Rad. Petasitidis siccata. &
Pul. dracm. duas; Cochinilla dracm. unam. M.
f. Pul. in sex chart. distrib. ex quibus cap. unam
quartâ quâque horâ in cochlear. Julap. sequentis,
superbibendo haust. ejusdem.

℞ *Aq. Lactis Alexiter. Vini Rub. Gal. ana*
℥ unam; Syr. de Rubo Ideo unc. duas;
Ol. Vitrioli dul. scrup. duos. M. f. Julap.

By the *Twenty fourth* he was perfectly well, and went abroad. After he had recover'd his strength, I order'd the following Purge to be repeated two or three times, at about three days distance.

℞ *Cremor. Tart. gr. xii. Antimon. Dia-*
aphoret. gr. x. Resin. Jalap. gr. viii.
Cons. Cynosbati q. s. f. bolus, primò manè as-
sumend. cum regimine.

At night going to bed, after he had taken the Purge, I order'd the following quieting Draught.

℞ *Aq. Papaveris unc. duas, Mirabilis drac. tres; Ol. Sulphuris gut. octo; Laud. Liquid. gut. xx. Diacodii dracm. tres. M. f. haust.*

The neck of this Fever was perfectly broke in seven days, tho it was no less than what is commonly called Malignant. Whereas had he bin treated with Alkalies and Alexipharmics, it would have bin no less than fourteen days before his Fever would have any thing abated, if he had not dropt by the way. By this Method of mine People are generally kept from being delirious, and all those other dreadful Symtoms that attend such as are treated with Alkalies and Alexipharmics.

Observation the Third.

July the Eighth, I was sent for to a Woman who had lain three days and nights in an Apoplectic Fit, in which time Dr. Richard R. had order'd her to be let blood to the vast quantity of six Ounces, and had caused a Vesicatory of the largeness of a Crown-piece to be applied to her Neck. From neither of which had she found any relief; neither indeed could it be expected, it being but mere trifling in so deplorable

plorable a Distemper. She had not spoke nor stir'd either Hand or Foot the whole three days, but lay as one dead. I immediatly order'd thirty Ounces of Blood to be taken out of her Arm, and large Veficatories to be applied to her Head, her Neck, and her Wrists; and that they should force down the following Medicins: but in a little time after the Bleeding, her Senses began to com to her.

℞ *Tart. Vitriolati* dracm. unam; *Crémor. Tartari* dracm. duas; *Resinæ Fallapæ* scrup. unum. *M. f. Pul. in quatuor chartulas distribuend. ex quibus cap. unam secundâ quâque horâ, donec incipit purgare.*

℞ *Sp. Lavendulæ* unc. duas; *Gaf. Sulphuris* unc. unam; *Aq. Peoniæ Comp.* unc. tres. *M. f. Mixtura, cap. cochleare unum frequenter.*

The Ninth she continu'd stupid and dozy, so I order'd thirty Ounces of Blood to be taken from the Jugular. Her Pouders had not wrought with her, and therefore I order'd the following Clister, and likewise a Sternutatory to be used often, and a repetition of her Cephalic Mixture. For her constant Drink I order'd a Tea made of Rosemary and Lavender Flowers, to be acidulated with dulcified Oil of Vitriol.

℞ *Flor. Rorismarini, Lavendulae, ana m. unum; Cort. Winteriani unc. semis; Aq. Font. ℥ duas: coquantur ad dimidia partis consumptionem, & coletur; Colaturæ unc. xii. adde Vini Benedicti unc. unam, Syr. E spinâ Cervinâ unc. unam semis. M. f. Enema statim injiciend.*

℞ *Castorei opt. drac. sem. Nucis Moscate dracm. unam; Fol. Assari dracm. semis, Nicotiani dracm. duas. M. f. Pul. sternutatorius frequenter usurpand.*

The Clyster wrought very well, and her Blisters run plentifully, which greatly reliev'd her.

The Tenth, she could turn her self in her bed, and open her Eyes, and swallow very well, but could not speak at all. So I order'd them to dip som tosted Bread in Spirit of Lavender, and that she should hold a piece of the said Bread in her mouth, and take the following Medicins.

℞ *Tart. Vitriolati dracm. duas; Cremor. Tart. unc. semis; Castorei, Salis succini, ana dracm. sem. Ol. Nucis moscat. gut. xx. M. f. Pul. in quatuor chartulas distribuend. ex quibus cap. unam quartâ quâque horâ in cochlear. Julap. sequentis, superbibendo haust. ejusdem.*

℞ *Aq. Pulegii uncias duodecem; Pconie Comp. Hister. ana unc. duas; Sp. Lavendula, Gaf. Sulphuris, ana unc. unam sem. Syr. Pconie unc. unam. M. f. Julap.*

The Eleventh, she could speak half words, but was somewhat stupid; so I order'd her to be let blood again in the Jugular to thirty Ounces, having found her to be greatly reliev'd after each of her former bleedings, and to persist in the use of her former Medicins.

She was let blood no more, but continued to use the foremention'd Medicins; and by the eighteenth she was able to speak freely, and to walk about her room: So I prescrib'd her the following Steel Course, and directed her to persist in it for about three weeks or a month, which accordingly she did, and she continues perfectly well.

℞ *Calibis cum Tart. præp. unc. semis; Nucis moscatae, Cardamomi, ana dracm. duas; Castorei scrup. duos; Ol. Nucis moscatae gut. xxx. Conf. Salviae unc. unam sem. Syr. Pconie q. s. f. Elect. cap. quant. Nucis Moscatae primò manè & horâ quartâ pomeridianâ, superbibendo uncias quatuor Infusionis sequentis.*

℞ *Flor. Rorismarini, Lavendula, ana M. un. Nucis moscatae, Cardamomi, ana*
A a 4 *drac.*

drac. duas; Aq. Font. libras duas. Infunde clausè & calidè per horas quatuor, & coletur; Colaturæ adde Sp. Lavendula unc. quatuor. M.

Observation the Fourth.

June the twenty fourth, a Gentlewoman applied her self to me for advice. She had a constant lassitude and weariness upon her, a violent Cough and Shortness of Breath, and constant foreness and pain in her Breast, a taste of Blood always in her Mouth, a Heëtic Fever, and Cold, Colliquative Night-sweats, with an almost total loss of Appetit; all the true Signs of a radicated, confirm'd *Pthipsis* or Consumtion. I prescribed the following Medicins.

℞ *Tartari Vitriolati dracm. unc. sem. Cre-
mor. Tartari, Salis Prunellæ, ana dracm.
duas; Sacchari Alb. dracm. sex. M. f. Pul.
in oëto chartulas distrib. ex quibus cap. unam
quartâ quâque horâ, in haust. Infusionis sequen-
tis.*

℞ *Rad. Eringii unc. duas; Bals. Tolutani
dracm. unam: Aq. Font. lib. duas semis.
Infunde clausè & calidè per horas sex, & coletur;
Colaturæ adde Syr. Balsam. unc. duas. M.*

℞ *Gaf. Sulphuris unc. duas; Ol. Cinnamomi, cum Sacch. alb. mixt. gut. quatuor.*
M. cap. cochlear. unum in omni difficultate respirationis.

In about five or six days the bloody Taste in her Mouth began to abate, as did also her Sweats.

July the First I visited her (she being remote from the City, I could not visit her above once a week) and finding her somewhat Histerical with a little Loosness, I prescrib'd the following Medicins, and ordered her Poulters and Infusion to be repeated.

℞ *Aq. Lactis Alex. unc. duas, Hister. drac̄ tres; Gaf. Sulphuris dracm. duas; Ol. Cinnamomi gut. unam; Laud. Liquidī gut. xx.*
M. f. haust. horâ somni assumend.

℞ *Aq. Lactis unc. octo, Hister. unc. quatuor, Cinnamomi Fort. unc. un. sem. Gaf. Sulphuris unc. unam; Syr. Balsam. unc. unam.*
M. f. Mixtura, cap. Cochlear. quatuor sapius in die durante languore.

℞ *Gaf. Sulphuris unc. quatuor; Ol. Cinnamomi, cum Sacch. alb. q. s. Mixt. gut. sex.*
M. cap. cochlear. unum in omni haust. potus.

August the first, her bloody Taste and cold Sweats had quite left her, and the Soreness of her Breast was much abated, and her Appetit in a manner restor'd. But her Cough and Shortness of Breath continued, as also did her Hectic Fever; but these were much more favorable than at the beginning. I prescribed the following Medicins.

Repetantur Pulveres & Infusio.

℞ *Ol. Vitrioli dul. dracm. duas. Cap. gut. 40.*
in omni haustulo potus, & praeipue quando
difficultatem respirandi habet.

℞ *Opobalsami dracm. duas. Cap. gut. sex*
sing. noct. horâ decubitus in cochlear. Syrup. se-
quentis.

℞ *Syrup. Balsam. unc. quatuor, Ol. Sulphur-*
is per campan. q. s. ad acid. saporem.

August the 6th her Cough and Shortness of Breath had quite left her, and all the other Symtoms in a manner abated; but she was very costive, and had a propensity to vomit; I therefore prescribed as follows.

℞ *Sp. Hier. Picra scrup. duos; Tart. Vi-*
triolati dracm. unam; Aq. Epidem. unc.
tres.

tres. M. f. Mixture, cap. cochlear. unum primò mane, & cochlear. sem. horâ dimidiâ ante prandium, in haustulo Vini rubri.

August the 12th, she was somewhat Histerical, but had no return of her former Indispositions; so I prescribed the following Medicins.

℞ *Aq. Pulegii Cerafor. nig. Hister. Rutæ, ana unc. quatuor; Elix. Vitrioli scrup. duos; Sacchari alb. unc. unam. M. f. Julap. cap. cochlear. sex in languoribus.*

℞ *Laud. Lig. scrup. unum; cap. gut. xxv. horâ decubitus in haust. Julap. præcedentis.*

August the 22d she finding her self very well, return'd to her own Habitation in the Country, a great distance from London: so I prescribed the following Medicins to be taken for three weeks or a month, to confirm her in her Health, and prevent the return of her Distemper.

℞ *Cremor. Tartari, Salis prunellæ, ana unc. unam; Tart. Vitriolati dracm. decem; Mastiches unc. semis; Sacchari alb. unc. quatuor; Ol. Garriophil. dracm. semis. M. f. Pul. in pixide asservand. cap. quant. Mucroni cultri contineri potest, in haust. Infusionis bis in die.*

℞

℞ *Elix. Vitrioli unc. semis; cap. gut. xv. frequenter in haust. Infusionis.*

℞ *Opobalsami dracm. duas; cap. gut. sex sing. noct. horâ decubitus in cochlear. Syrup. Balsam. cum Ol. Sulph. acidulati.*

She has since bin in Town very well, and free from any of her former Indispositions.

Observation the Fifth.

October the 13th, I was sent for to a young Gentleman who for som days had bin ill of a Pestilential Fever, having black and purple Spots upon his Breast, and other parts; and about thirty hours before was taken with a violent bleeding at his Nose, and in that space had bled, by a modest computation, at least twelve pounds. All ordinary means, both internal and external, had in vain bin used by a great and honest Physician, whose Advice had bin requir'd; but the Effusion of Blood could no ways be stopt, so that both Physician and Relations had given him up for dead. But providentially a Relation of mine coming in, with a Solution of the *Vulnerary Powder* that was formerly mine, soon stopt the Effusion of Blood at his nose, and withal gave 'em encouragement that if they would send for me, he might be so treated, as to have his Fever

ver taken off, and his Life preserv'd. Accordingly I was sent for; and tho the loss of Blood had bin so great, yet his Fever was not in the least abated, his Pulse being violently high and quick, his Tongue as black as a Coal, and so rough, that one might almost grate a Nutmeg upon it, with a violent Orgasm of his Spirits: both his bleeding, Spots, and even the Fever it self proceeding from the Globules of the Blood being broken by too great a quantity of Alkalies, as I have more at large taken notice in my Essay of *Alkaly and Acid*. I prescrib'd the following Medicins.

℞ *Crem. Tartari dracm. duas, Salis prunelle dracm. duas, Tart. Vitriolati drac. unam, Sacchari rosati dracm. sex. M. f. Pul. in quatuor chartulas distrib. ex quibus cap. unam secundâ quâque horâ in parvâ quantitate Julap. sequentis, superbibendo haust. ejusd.*

℞ *Aq. Lactis Alexiter. Cinnamomi Hord. ana ℥ unam; Aceti distillati unc. duas; Syr. Lujule unc. tres; Ol. Vitrioli q. s. ad acidum saporem. M. f. Julap.*

℞ *Fol. Rosar. rub. m. sex, Aceti acerrimi q. s. coquantur ad mollitiem, & applicetur inter duas pannas lineas, fronti & stomacho.*

℞ *Aq. Mirabilis, Cinnamomi, ana unc. tres; Cinnamomi Hord. unc. quatuor; Ol. Vitrioli gut. 60. Syr. Lujule dracm. sex. M. f. Cardiacum, cap. cochlear. sex quando Spiritus languent.*

Within half an hour after he had taken each of the first three papers of Pouder, he vomited up great quantities of coagulated Blood, but the fourth staid with him; and within three hours after he had two or three loose stools, the greatest part of which were Blood; after which he was somewhat composed, and slept three or four hours, and then seem'd to be much refresh'd.

October the 14th, I ordered a Repetition of the former Medicins; only instead of the Cordial, I gave him that which follows; and being very thirsty, I order'd he should have Lemmonade, with a little White-wine mixt with it, to drink in as plentiful a manner as he pleased.

℞ *Aq. Cinnamomi Hord. Cinnamomi Fort. ana unc. tres; Syr. Garrioph. dracm. sex; Confect. Alkermes dracm. duas. M.*

The 15th, the violence of his Fever began in som measure to abate, but he had a very great depression of his Spirits, being extremely

tremely fainty and weak. I order'd the following Pouders and Julap, with a repetition of his Cordial. And by reason he had not slept the foregoing night, I order'd the following composing *Haustus*, one half to be taken at eight a clock; the other half about Midnight, if he did not sleep.

℞ *Tart. Vitriolati dracm. unam; Cremor. Tartari, Salis prunella, ana dracm. unam sem. Ol. Cinnamomi gut. sex, Garrioph. gut. sex. M. f. Pul. in sex chartulas distrib. ex quibus cap. unam secundâ vel tertiâ quâque horâ in cochlear. Syr. Balsam. superbibendo haust. Julap. sequentis.*

℞ *Aq. Cinnamomi Hord. libram unam semis, Mirab. unc. tres; Ol. Vitrioli dul. q. s. ad moderat. acid. addendo Syr. Lujula unc. duas. M. f. Julap.*

℞ *Aq. Cinnamomi Hord. unc. tres, Mirabilis dracm. sex; Laud. Liquididi gut. 30. Ol. Vitrioli dul. gut. 10. Syr. Papaveris unc. semis. M.*

The 16th his Fever was more abated, and the Spots began to disappear. But the blackness and roughness of his Tongue continued, and he was very costive; so I prescrib'd the following Mixture to moisten his Mouth, and the Clyster to open his Body. The Clyster wrought three or four times, and brought away

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way a great quantity of black, coagulated Blood that still remained in his Bowels. After the operation of the Clyster, I ordered he should take the composing *Haustus* as before.

℞ *Urina Hominis sani unc. decem; Terebinth. Veneti cum Vitello Ovi opt. mixt. unc. unam; Ol. Chamomilla unc. unam, Annisi gut. sex. M. f. Enema statim injiciend.*

℞ *Syr. Balsam. Aceti, ana unc. unam semis. M. f. Mixtura cap. cochlear. unum frequenter.*

Repetatur haust. Paregor. cap. dimidia pars post operationem Enematis, pars altera circiter medium noctis.

The 17th, the Spots totally disappear'd, and his Fever abated, but he continued very languid and fainty: I prescrib'd the following Medicins.

℞ *Cremor. Tartari, Salis Prunella, ana dracm. unam; Ol. Garriophyllor. gut. octo, Cinnamomi gut. quatuor. M. f. Pul. in quatuor chartulas distribuend. ex quibus cap. unam tertiâ quâque horâ in Cochleari Syrup. Balsam. superbibendo haust. Julap. sequentis.*

℞ *Aq. Cinnamomi Hord. ℥ unam, Epidem. unc. quatuor; Syrup. Lujula unc. unam semis;*

semis; Ol. Vitrioli dul. q. s. ad moderat. Aciditatem. M. f. Julap.

Repetatur Julap. Cardiacum.

The 18th his Fever was in a manner gon, and he began to have an Appetit; so I allowed him to eat Whiting, or som such thing; the roughness and blackness of his Tongue were quite gon, but both his Mouth and Tongue were very sore; he also had a little obstruction in making Water. I prescrib'd the following Medicins.

Repetantur Pul. & Julap. bestern. nocte prescript. Repetatur etiam Enema non ita pridem prescript.

℞ *Sem. Cydonior. Dracm. unam semis; Aq. Fontan. lib. unam; coquantur ad dimidia partis consumt. & coletur; Colatura adde Syrup. Altheæ unc. unam. M. f. Gargarisma, frequenter usurpand.*

℞ *Amygd. Dul. decort. dracm. sex; Sem. Papaver. Alb. dracm. tres. Sem. Quat. Frig. M. ana dracm. unam; Aq. Rosarum unc. duas, Hordei lib. duas; F. Emulsio S. A. addendo Sacchari alb. unc. duas. M. cap. haust. larg. frequenter.*

The 19th, his Fever was quite gon, but the soreness of his Mouth and Tongue continued,

as did also his difficulty of making Water, but that was somewhat better than the day before. I prescrib'd for him as follows.

Repetatur Emulsio.

℞ *Sem. Psillii, Cydoniorum, ana dracm. unc. sem. Aq. Font. ℥ unam; coquantur ad dimidia partis consumt. & coletur; Colatura adde Syr. Althææ unc. unam, Sacchari Saturni scrup. unum. M. f. Gargarisma, frequenter usurpand.*

℞ *Cremor. Tart. dracm. duas; Cochinille scrup. duos; Ol. Cinnamomi gut. quatuor. M. f. Pul. in quatuor chart. distrib. ex quibus cap. unam quartâ quâque horâ in cochlear. Syrup. Balsam. superbibendo haust. Julap. non ita pridem præscript.*

℞ *Aq. Lactis unc. unam semis, Mirabilis unc. semis; Laud. Liquidi gut. xx. Ol. Vitrioli dul. gut. decem. M. f. haust. cap. hac nocte, si non bene dormit.*

The 20th, his Apperit increased, and what he eat he digested very well; he began also to recover his strength, and could sit up an hour at a time. I order'd the repetition of his former Medicins.

The 24th, I visited him again, when I found him increased in strength to a very great degree. I order'd the following Medicins. ℞

℞ *Crem. Tartari* dracm. duas, *Cochinille*
dracm. unam. *M. f. Pul. in quatuor*
chartulas distrib. ex quibus cap. unam primò manè
& horâ octavâ vesperti, in cochlear. Syrup. Balsam.
superbibendo haust. Julap. sequentis.

℞ *Aq. Cinnamomi* Hord. lib. unam, *Epidem.*
unc. quatuor; Syr. Lnjula unc. unam
sem. Ol. Vitrioli dul. q. s. ad moderat. acidita-
tem. M. f. Julap.

He persisted in the use of these Medicines till
the first of *November*, at which time I prescri-
bed the following Steel Course, to be continu-
ed for a fortnight or three weeks.

℞ *Calibis cum Tart. præp. Crem. Tartari,*
ana dracm. tres; Cardamomi, Cubebar.
ana dracm. unam; Conf. Salvia unc. unam senz.
Syr. Garriophyllor. q. s. f. f. Electuarium, cap.
quant. nucis moscata primò manè & horâ quartâ
pomeridianâ, superbibendo haust. Infusionis se-
quentis.

℞ *Rad. Eringii unc. duas; Cort. Aurant.*
dracm. tres; Aq. Font. ℥ unam sem. Vi-
ni rubri ℥ unam. Infunde per horas sex, & co-
letur; Colatura adde Syr. Aurantior. unc. duas. M.

℞ *Rad: consolidæ majoris, Eringii, ana unc.*
duas; Aq. Font. ℥ quatuor; coquantur.

ad dimidia partis consumptionem, & coletur; colaturæ adde Syr. Aurant. unc. duas. M. f. Apozema, cap. haust. sæpius in die.

Before he began the Steel Course, he was very hearty and well; and the only reason of my putting him into the Steel Course, was to prevent his falling into a Dropsy, or som other Chronical Distemper, after the loss of so great a quantity of Blood, attended with so violent a Fever: and I thank God it had the desired effect.

From the recovery of this young Gentleman may several things be inferred: As,

First, That *Hemorrhagies* in malignant, pestilential Fevers, are not always to be accounted the certain Prognostics of future Death, nay, would very rarely prove so, were proper Acids given in plentiful quantities.

Secondly, That the worthy Gentleman, who is the great Patron of *Phlebotomy*, dos only follow Nature's Dictates, when he prescribes Bloodletting in malignant Fevers.

Thirdly, That Malignant, Pestilential Fevers may safely and certainly be cur'd without the use of any of the nauseous Tribe of *Alexipharmics*, which very rarely are of any other use, than to send the Patient to his long home in a short time.

The True Account of an Extraordinary Cure wrought by Bathing in Cold Water, sent to me by my Worthy Friend Dr. Baynard, from the Bath.

The Case of Samuel Crew Gent. of Lacock in the County of Wilts, taken before Edward Montague of Lacham, Esq; and several other Gentlemen, then at his House present, all which very well knew his Condition, being of the Neighborhood.

I The said *Samuel Crew*, about two years since, was seiz'd with a most intolerable Pain in my right Elbow, from thence the Pain went into the Insteps of both Feet, thence into my other Arm, and the lower end of my Back-bone; thence into the Nape of my Neck: But after it had seiz'd my Neck, it

B b 3

spread

spread all over me, not only in my Joints, but Flesh also, insomuch that the Calf of my Leg was contracted as hard as any Iron Wedg, and so continued three quarters of a year with such racking Pains as are inexpressible. My Belly seem'd to be clove to my Back-bone, insomuch that it was all hollow like a Dish, and would hold water when I lay upon my Back. My Fundament was drawn up three or four inches into my Body; and I was grown so thin and extreme poor, that I was raw, and gall'd with lying, and lousy with poverty of Flesh; and had such Pains in my Ears, that if a red hot Iron had bin run into them, they could not have bin worse. I lay upon my Back half a year, not being able to stir or move hand or foot all that time: In short, the Pain did so distract me, that I hallo'd and hoop'd like a madman with extremity of misery, insomuch that I really thought Hell could not be worse; nor is it possible for any Tongue to tell, or Pen to write the Miseries I endured. I was worn to a mere Skeleton; and when I went to stool, which was once in four or five days, and then forced by Purging Syrups, &c. no Woman in extreme Labor could have more pain, caused thro the contraction of my Fundament. I had several able Physicians with me, to whom my Case is well known; they prescribed me Purging, Bleeding much, and very often; they sweat me a whole month together. I
rock

took *Viper Pouders*, *Crabs Eys*, *Pearl Cordials*, *Sal Volatil*, *Spirit of Sal Armoniac*, *Spirit of Harts-horn*, *Oil of Tartar*, and several other Drops, and all the *Woad-Drinks*, and all to no purpose: I went to the *Bath*, and there bathed, which so increas'd my Pains, that I am well satisfied, one Essay more in the *Bath* would have cost me my Life, even in the Waters. At last meeting with Dr. *Baynard*, he perswaded me to go into Cold Water over head and ears, every day fasting, and use the Decoction of *Wild Sage*, *Ground Ivy*, *Ground Pine*, *Germander* and *White Hoarhound*, acidulated with *Crab-Verjuice*, for my constant Drink, which I did; and in six days immersion in the Water, and using the Drink, I was well, so well as to walk about my Grounds: all my Pains insensibly vanish'd; my Stomach, which was quite lost and decayed, was restored; I got strength, slept sound, my Flesh came on, and my Color came into my Face. All this is well known to the Neighborhood and Country around, which with my humble Acknowledgments to Almighty God for this my great Cure, I attest to be literally true.

Given at Mr. *Montague's* House at *Lacham*, June 2. 1696.

Witness my Hand,

Samuel Crew,

[There is of late a cold Spring found out in the Fields at the end of *Greys-Inn Lane*, over which there is a House erected, and in all respects much greater conveniences than are to be met with either at the cold Baths at *St. Magnus* in *Yorkshire*, or *St. Winifred's* in *Wales*; and the Water is in all respects as cold as either of them. Now the wonderful usefulness of Cold Waters in most Paralytic Distempers, and some Cutaneous ones, is such, that I am not ashamed to recommend them to the World.]

The Postscript of a Letter from Mr. William Matthews Apothecary of Ledbury in Herefordshire.

HAVING Time and Paper, I acquaint you with an Observation I have made of a Specific generally used here by the common people for the cure and prevention of the Small-Pox, which is, to drink frequently *Raddle*, *Terra Rubrica* (a thing known to every body in that Country) I think *English Bole*; it either prevents the Infection, or they that have it, very few and favorable: none die that use it.

A Child about a year old was taken violently with Convulsive Fits, and despaired of by Physicians: The Assistants were advised to apply young Pigeons, the Breeches to the *Anus*, till they lived; if the first lived, it was a sign they would do no good: Seven were applied one after another as fast as they died, which was immediatly in less than half a minute; the eighth lived, and the Child recover'd immediatly, and had no more Fits. The like I experimented upon a Neighbor's Child, but we could get but three, which all died; yet the Child recover'd very well. Afterwards being sent for to a Woman who complained of a convulsive Pain in her Side, and had bin near three weeks in that Condition, and gon thro

thro several Methods, *Cathartics*, *Opiats*, &c. to no purpose, I advis'd the Pigeons; ten or eleven died, the twelfth lived, and the Woman well recovered: she was emaciated with her Pains to a mere Skeleton, and Death in her Face, but is now healthy and plump.

But since, a Man troubled with Convulsive Motions, sometimes in the *Colon*, sometimes in the *Sphincter* Muscle of the Bladder, sometimes in the Hands and Feet; the Pigeons were applied, but had no effect; for tho several were applied, not one died, or was the worse for it.

To the Child before-mentioned they died so quickly, that a Gentlewoman present fear'd the Maid that applied them might hold them too hard, which might occasion their dying so suddenly; therefore she would her self apply them, and she did it with the greatest tenderness imaginable; yet as soon as fix'd to the place, they sprawl'd out their Legs and died.

There is scarce any one that has bin long a Practitioner, who has not made som Observations of the operations of Specific Medicins. Now whoever has made any Observations of this nature, if they will be so kind as to communicat them to me, they shall not fail of being made public for the common benefit of Mankind; with the Names of the Persons who shall communicat them.

Just

Just as the last Sheet was in the Press, I received the following Letter from an unknown Hand; and having received many of the same nature, I have presumed to publish this, and to make som short Animadversions upon it.

Worthy Sir,

EXCUSE this Trouble from a Stranger, whose unhappinefs it is to live so remote, as not to be capable to have the Honor of visiting and conversing with you: Yet permit me to tell you, that I have applied my self to the study of Physic divers years past, but have never yet prescribed any, unless in Charity to a few *Paupers*. Sir, I have read both your Books of *Alkalies* and *Acids*, I have read them over and over again; also I have your *Novum Lumen Chirurgicum*. I confess they seem to be very ingeniously wrote, and (as you declare) for the benefit of Mankind; and that I easily believe, because you are so free and liberal in printing your Receipts. When you prescribe Acids in the Gour, Consumption, &c. I am at a stand in my Study, and know not what Book to read next, since your new Doctrin contradicts all I have yet read in Physic. I did then make it my business to inquire of the Learned Men of my Acquaintance, what was
your

your Education, and what their opinion of your Positions in your Books. The Physicians I have met with, tell me you were bred an Apothecary (as I think you say in one of your Books) and they will allow you to be a very good one. They will allow also, that you have got out of the Fire, by your assiduous Labor, an excellent Medicin to cure Wounds; but they admire extremely (considering your Youth and small time of Practice) that you are so positive and dogmatical in your Writings about Physic, since you contradict the Practice of so many eminent and worthy Physicians of the former, and this present Age, who will no more admit of Novelties in Physic, than Divines will in Religion. I told them I should be glad to see an Answer to your Books by some able Physician; to which they replied, you were not yet run to the length of your Line, for you are now about a Treatise of the *Gout*, of the different Species of those Attacks, and proper Medicins to cure each of them; in which presumptuous Undertaking you will so far expose your weakness, that after the publication thereof, all your Books shall be answered and refuted together. Sir, I heartily wish they may be deceived in their expectation, and that you may not be deceived in yours. I humbly advise you to publish none of your Receipts with your Treatise of the *Gout*; for if it shall happen that they answer not what you promise for them, you will expose your self

self to the Censure of your Adversaries : Whilst on the other hand, if they shall prove as effectual as you expect, it is great reason that you should reap the sole benefit thereof to your self, (during Life at least) and you may leave them after your Decease, a good Portion to your Son, or Jointure to your Widow. Nor think this Counsel too mean for your generous Soul, since divers eminent Physicians pretend to *Nosstrums* of their own Invention, and conceal the Receipts, and keep the Profits thence arising to themselves. The Surgeons I have conversed with, touching your Pouder and Tincture, for the cure of External and Internal Wounds, seem to be of a more angry and rigid Temper; they admire you should enter into their Province, and meddle in their Profession, which is but collateral, if not quite foreign to your Education. I have made them confess that your Syringe is better than their Probes, and that it will reach farther, and with less danger to the Patient. They have confessed also that you are in the right as to your prohibition of the use of Tents, since they keep the Wound open, and procrastinate Cures, rather than expedite them; but they will not allow that your external Medicin will cure any thing but cut Fingers and gall'd Horses; and that your internal Medicin is good only for the Gripes, and to procure rest. They confess you have cured some few Cuts with a Sword in four days, but they were such as a Dog would have

have lick'd whole in three: but a Wound made with a Gun-shot you ~~never~~ made any application to, or pretended to cure it. They indeed say, that in the Year Ninety Four you did dedicate a Book to the King, extolling the wonderful Cures effected by your Medicins in *Flanders*: but they admire at your Confidence, since few of those Cures were ever perfected; and if any of them were made, they were made by the Surgeons of the respective Regiments. They say farther, That you have never given any one Instance of any Cures wrought at the famous Siege of *Namur*, tho you were present all the time.

Sir, These Reports they have industriously spread abroad; whether true or false I know not: but I desire you will take it kindly from me, to acquaint you with what is said, which I presume was never said to your face, nor can you com to the knowlege therof any other way. I confess their Discourse seemed to be seasoned with the Salt of *Demetrius* and his Followers, who made Shrines for the Goddess *Diana*; wherfore I will suspend my Judgment, and also my farther study in Physic, till I see your Discourse of the Gout, which with impatience is expected,

Dated at York,
Nov. 30. 1696.

By your unknown, yet faithful
Servant and Welwisher,

T. S.

The

The Gentleman who wrote me this Letter (whose Name I should be glad to know) seems to be a man of Candor and Ingenuity. And I must confess, that the Doctrin I have advanced is so directly contrary to every thing that has bin yet wrote, that it is enough to startle any young Man, nay som old ones too: But for all that, the Novelty of the thing is no argument why I should not inculcat it in the clearest manner I can. The *Circulation of the Blood* thro the Arteries and Veins of Human Bodies, was as old as *Adam*, yet we don't find it ever clearly demonstrated by any one before our Great *Harvy's* time. And because no man had wrote upon that Subject before, (nay the Opinions of all Mankind were directly opposit to it, tho it were as demonstrable and clear, as that two and two make four; nay I admire how people could be so sottish, as to see Blood run from a Vein below the Ligature, and not from thence infer a Circulation) must he therfore omit it for fear of displeasing the rest of his Brethren? If ingenious men should take such a course, we must never expect Improvements in any Profession. But there never yet was any one that advanced a new thing, tho never so clear and demonstrable, but all the rest of his Profession were up in Arms against him. It is an innate Principle in the minds of most men, not to allow any man to be more knowing in his Profession than him.

himself. Every man almost would have the World believe, that he knows as much or more in his own Profession than any besides. But if a Person starts up, and advances something in a Profession that was not known before, he is immediatly cried out upon for an Innovator at least, if not for a Madman. This was *Harvy's* Case; very few in his time believing, or at least owning the Circulation of the Blood, tho it be now the common received Opinion of almost all Mankind. *Harvy* inculcated his Doctrin so clearly, that 'tis almost impossible any Physician should be unconvinced of its truth: But they were then ashamed to own it, for fear people should see they were subject to Mistakes as well as other men; and if they were mistaken in so great a Point as the Circulation of the Blood, why not in others as much material? Physic is not brought to its *Acme* of Perfection. There are a great many Distempers we can't tell how to cure with any sort of certainty; therefore that Man who has made any Discoveries which may tend to relieve men in distress, is worse than a Brute, if he dos not communicat them, let his Treatment for so doing be never so ill. And to those who believe the Sacred Writings, it is one of the greatest comforts to be evilly treated for well doing, by reason that such are accounted Blessed.

As for my being bred an Apothecary, I am not ashamed to own it, as the greatest Lawy-
ers

ers are not ashamed of their being bred Attornies. And many of the greatest of them have bin so.

As for the great Threats that are daily thundered out, of my being confuted; they are but mere Scarecrows to me. I am so far from being afraid of it, that I should be heartily glad to see it don: For whoever shall by solid and substantial Experiments make it appear that I am in the wrong, shall be my great *Apollo*; and the first thing I do, shall be to write a public Recantation. [But as for those many Tracts which have hitherto bin wrote against me, both before and since the first publication of this Treatise, if I may be allowed to judg in my own Cause, I can't forbear saying, that I think the Authors have more shewn their skill in Raillery and *Billinggate* Language, than in strength of Argument to overthrow my *Hypothesis*; and where ill Language is used in the place of Arguments, it is enough to give judicious men a suspicion, that the Cause which wants to be supported by such Methods is not the best.]

The concealing of any thing I know, that may be any ways serviceable to Mankind, is what for the future I shall never do. I had better have given five hundred Pounds than have kept my Vulnerary Pouder and Tincture as Secrets; and had it not bin for making my self some part of satisfaction for the great Losses I sustained by going to *Flanders*, I

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would

would never have sold them, but made them publick.

As for what som of the Surgeons continue to say of me, I am not in the least concern'd ; but Justice to the Gentleman who bought the Vulnerary Pouder and Tincture of me, with the Receit for making the same, obliges me to assert that they will do more than cure the Gripecs and cut Fingers. And since they say I have given no Instance of any Cure wrought at the famous Siege of *Namur*, I shall here presume to give an account of one, wherby their Positions will be totally overthrown.

One Mr. *Cherry*, a Serjeant of Grenadiers, in the Regiment of the Honorable Col. *Frederick Hamilton*, was, at the Attack of the *Terra Nova* of the Castle of *Namur*, wounded in twenty six places ; twenty three of them were made with Bullets, and three large Cuts in his Head with a Sword. He lay forty eight hours stript naked upon the Breach, without a bit of Bread or drop of Drink, or having any thing don to his Wounds. Upon the Capitulation several of our Soldiers going up to the Breach to look after their dead Officers, found him alive ; so they brought him down to me to the Hospital at the Abby of *Salzine* ; he was as cold as a dead Corps, and so weak that he could scarce speak. There were two Bullets that went thro his Body, in just below the short Ribs on one side, and out on the other. He had seven Shots in his left Arm, the
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Bone being broken and shatter'd to pieces, at least three Inches of it taken quite away : To be short, there was scarce one Limb that was not wounded more or less ; and yet this Man was cured without applying any thing in the world to his Wounds but the Vulnerary Pouder, and giving him the Tincture inwardly ; and thro the whole course of his Cure he had never any thing of a Fever. The truth of this will be attested by Mr. *Thomas Davis* Surgeon, in *Norfolk-street*, who had the care of him.

If any will enquire of the Honorable Colonel *Ingoldsby*, I am sure he will give them an account of a great many Soldiers of his Regiment that were wounded at the same time, who were cured by the same Means, as were a great many in other Regiments.

I have lately had an Account of a Country Surgeon who cut a Person for the Stone, and by means of the Vulnerary Pouder cured the Wound in four days.

As for what I have said in that Piece I dedicated to his Majesty, it is not in the power of the most malicious of my Enemies to contradict the Truth of any one of the Relations there given. But for what is said concerning the Regimental Surgeons, there is somewhat of truth in that ; all, or the greatest part of what was don that Year, being perform'd by Mr. *Cholmly* Surgeon to the Honorable Col. *Brewers* Regiment, by my direction, I never

pretending to operat in Surgery my self, unless upon som very urgent Occasions, where a professed Surgeon was not to be had.

[There are a great many People in *London* and other parts of *England*, who confidently sell a Pouder and Tincture, which they call mine: But those People who buy them of any one besides Mr. *Brown* Bookseller without *Temple-Bar*, and Mr. *Raddison* in *Rupert-street* at the end of *Piccadilly*, if they find their expectations not answerd in the use of them, must not blame me, but themselves for being imposed upon, by reason I have 2 or 3 times before given notice that the true Medicins, which I will own and stand by, are only to be had of the foresaid Mr. *Brown* and Mr. *Raddison*.]

While I was writing this, by chance I met with the following Passage in *Juncken*, in his *Med. Præsenti seculo accommod.* pag. 250. and he being a Man who all along accounts for the Cause of Diseases from the Blood's abounding with too great a quantity of Acids, the thing seems to be the more strange, and is the more to be depended on.

Sal in genere à rerum Conditore infinitis bonitatibus dotatum est: Fermentationem juvat, alimenta digerit, putredinem arcet, appetitum excitat, terram facundat; hinc Maritimi populi terram sale impregnatam effodiunt, & agris inspergunt, & omne hoc acidi ratione: Ubi è contra Alkalia carnem mortificant, & putredinem

nem promovent; & nisi horum ferociam eluderet acidus salis spiritus, mox omnia corrumperebantur.

Who could have desired more than this from a Friend? But coming from an Enemy, it carries the more weight and force along with it.

And thus I shall conclude, leaving this Piece to stand or fall as it deserves. If Mankind receives any advantage by it, I have my end. The Critics I am sure will carp at it, being wrote in so homely a Stile; but I have not aimed to tickle mens Fancies, but to inform their Judgments, and undeceive them in a matter of the greatest consequence.

The Gentleman who wrote me the following Letter, but a month before rail'd at my Doctrin of *Acids* the most that could be; tho I am sure he did it on no other score than because he thought my Hypothesis to be erroneous.

Dignissime,

Contra Juslitia Morumque normam peccarem, si virum cui Deo proximo vitam debeam, silentio praterirem. Nuper enim cum è luce penè evasissem, tu mihi propitiùs adstetisti, candide effulsisti, Tu meus Apollo. Ut autem quanto laboravi periculo, quam vix ac ne vix mortem effugi, Certus scies, & Morbi Naturam & Methodum Therapeneticam, seu Thanatephoram potiùs, paucis hic dicam. Hebdomada est, & ea qua excurrit,

rit, quâ lethali quodam frigore correptus Venter, officio fungi respuebat: Abhinc vires labefactare, animus delinquere, donec tandem Lipothymiam passus procubui. Iterum verò revertente animo, dum causam meditor tanti mihi mali, ecce adventabat fortè tunc Medicus, Doctus mercurè, & mihi familiaris: Is uti sanguinis Dyscrasiam ob Acidi plus nimio oriri censebat; Volatilia & Alkalia omnia ad motum, & calorem exsuscitandum jubebat; igitur Sp. Sal. Arm. Sal. C. C. Vol. Vinum ustum, & similia, nocte dieque ingerebam: Vescicatoria insuper perquam ampla, & Enemata corroborantia continuò applicantur; frustra tamen omnia, nec enim motum excitabant, nec colorem; at Sudores immodici, & frigidi, Membrorum rigor, Cordis palpitatio, & Pulsus subinde intermissio subitam intentabant mortem. Animo mecum verò revolvente, quæ & aliàs expertus sum, & quæ ipse nuperrimè de Acidis scriptis mandasti, Aqua fontana parùm acidulata libram unam, deinde alteram, exhauriebam; cui hora parte minus quartâ, & Membrorum debitus Calor, & benigna ubique transpiratio, successit: tunc arteriarum fortis micatio, alvi facilis exoneratio. Hoc temporis momento, tam subita mutatio, me ad Consilium vestrum petendum appulit; ex quo in melius cessi, Vires continuò recuperavi, vixi. His consona omnino Baynardus quidam, M. D. Facultate suâ inter Notissimos, qui agritudinis sub initio mihi etiam adfuit, suavit; at Consilium ejus neglexi, heu quantum neglexi Consilium! Hoc enim orbi attestari

testari non erubescerem me nempe Acidi solum beneficio, ab ipso mortis articulo eripi. Tantum non Jugulatis armata Medicina! Hic habes studiosissime status nostri relationem, quæ pro viribus licet imbecillis tamen animo quam forti, & non ingrato conscripta; ab

Amico tuo Fideli,

& Servo obedientissimo,

Dec. 19. 1696.

N. Tyrling.

F I N I S.

Newly publish'd.

AN Account of the first Voyages and Discoveries made by the Spaniards in America. Containing the most exact Relation hitherto publish'd, of their unparallel'd Cruelties on the Indians, in the destruction of above 40 Millions of People. Together with the Propositions offered to the King of Spain to prevent the further Ruin of the West-Indies. By Don Bartholomew de las Casas, Bishop of Chiapa, who was an Eye witness of their Cruelties. Illustrated with Cuts. To which is added, *The Art of Travelling*, shewing how a Man may dispose his Travels to the best advantage. London, Printed for Daniel Brown at the Black Swan and Bible without Temple-Bar, and Andr. Bell at the Cross-keys and Bible in Cornhil. 1699.

THE
DOCTRIN of ACIDS
IN THE
Cure of Diseases

Further Asserted:

Being an *Answer* to some Objections
rais'd against it by Dr. F. TUTHILL
of *Dorchester*.

In which are contain'd some things relating to
the *History of Blood*: As also an Attempt
to prove what *Life* is, and that it is princi-
pally supported by *Acid* and *Sulphur*.

To which is added an exact *Account* of the
Case of Edmund Turner Esq; deceased; as also
the *Case* of another Gentleman now living,
exactly parallel with Mr. Turner's.

By JOHN COLBATCH; a Member
of the College of Physicians, London.

The Second Edition Enlarg'd.

L O N D O N,

Printed for D. Brown without Temple-Bar; and
A. Roper in Fleet-street, 1599.

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The PREFACE.

THE Hypothesis I have advanc'd being new, and contrary to the common receiv'd Opinions of other Physicians, a very few excepted, I am continually pester'd with Objections of one kind or other; and therefore to save my self the labor of writing Pasquets of Letters every Post-day, I have thought fit to answer those Objections that are worth taking notice of in this public manner. The Gentleman whose Letter I have answer'd here, seems to be a Man of wonderful Candor and Ingenuity; and were it but for the satisfaction of him only, I should not think my time mispent: but however, hoping to do service to the Public by it, I have suffered these Papers to come abroad as they are. I confess they are not sufficiently polish'd for public View; and at the same time the pains I have bin at in composing them is too great to have them confined to the privat use of one person: and for the deficiencies, I shall endeavor to supply them in some other Papers that will be got ready for the Press as soon as possibly I can.

He that would pass the Course of his Life without Envy, must believe what is generally believ'd, and speak as others do; and whosoever takes upon him to do otherwise, let the Success of his Undertaking be what it will, the Reward he is like to meet with from the generality of Man-

kind, is to be reproach'd. *The Inquiry after Truth is an Undertaking in which little Assistance is to be hoped; and there are so many Guards on all the ways that lead to it, that it's a very hard task to break thro. 'Tis an antient Proverb, that, Non omnibus licet adire Corinthum. Whoever intends to overcome so many Difficulties, cannot hope to succede, but by his Diligence, Eagerness, and Earnestness: which Methods I have pursu'd as much as the hurry of my Affairs would permit.*

When I consider the great Number, and the Potency of my Adversaries, I am sometimes under the greatest Discouragements imaginable; and wish I had either gon on in the common Road, or that I had never appear'd in public, but have kept my Notions within my own Breast, and so I might have jog'd on without molestation. But when I call to remembrance the Guilt which that Person lay under, who made no improvement of his one Talent, but hid it in a Napkin, it dispels the former Considerations, and withal animats me to go on in the Work I have begun; which tho it may create me many Enemies, Truth at its first appearance never wanting Opposers, yet the thoughts of having endeavor'd to serve my Generation to the utmost of my power, give me that Peace and Satisfaction of Mind, of which all the united Force of my Enemies is not able to deprive me.

I never yet pretended to make People Immortal, my Indeavors having all terminated in this,
vix.

viz. to be serviceable to my fellow Creatures in distress as much as I was able. The wise Man says, That no man has power in the day of Death, and that there is no discharge in that War: The Issues of Life and Death being only in the hands of the Almighty. But I am so unfortunate, that if I have a Patient that dies in three or four months, tho perhaps I scarce prescrib'd any thing for him, it is immediatly spread abroad with all the industry that Malice is capable of, that I have bin his Murderer; by which Reports I have sustain'd no small damage: but however, in spite of all this, Thanks to God, I every day gain ground, and don't in the least doubt, but in a very little time to get out of the reach of my Enemies Malice.

I must confess my deficiency in so many things with respect to the ornamental part of Learning, which is scarce to be obtain'd out of the Universities, that I am altogether unfit to be a Champion in so great a Cause; but I have so much reason to be positive that the Hypothesis I have advanced is true, that from the Hints I have given I dare almost be confident, that even in my own time the Cudgels will be taken up, and the Hypothesis maintain'd and asserted by one who is able to go thorow with it better than I can. In the manifestation of the greatest Truths to the World, Men of mean parts are frequently made use of to be the first Broachers of them; but the further clearing of them is left to those of the most subtil and refined parts. And were my Hypothesis

but rightly handled, I don't doubt but it would prove the most Glorious of the kind that ever appeared upon the Stage of the World. However, till the thing is undertaken by some better hand, I shall not be wanting to prosecute it as far as I am able.

I beg one thing of such as shall give themselves the trouble of reading these Papers, which is, that they would not pass a rash Judgment upon me, but examin well what I have offer'd both in this and my former Tracts, laying aside Partiality and Prejudice; and if they find I have not made things sufficiently clear, if they inform me of it, and lay their Doubts before me, I will spare no Pains to make things yet more plain.

*Villers-street in York Buildings,
Oct. 8. 1697.*

Dr.

Dr. Tuthill's *LETTER* to
Dr. Colbatch.

Dorchester in Com. Dorſ.
Aug. 9. 97.

S I R,

I Have perused your ingenious Treatise of
the *Gout*; in which you seem to accuse
Alkalies as the Original of all Distem-
pers. Before I subscribe to this Opinion, I
desire to be satisfied in a few Points. The
grand Argument on which you build your
Hypothesis, is taken from the green Color
of the Serum which arises from its mixture
with Syrup of Violets. It must be confessed,
that Alkalies usually give it this Tincture,
and there may be something of an Alkaly, or
at least analogous to it, in the Serum: But
notwithstanding this, the many Inferences
which you are pleased to draw from this
Phenomenon, in my Opinion will hardly
hold good. For, 1. If this Alkalized Se-
rum is the Original of Distempers, then it
must follow that whosoever we find this
Serum, there must be likewise a Distemper:
Now I appeal to your self if the Blood of a
healthy Person will not give Syrup of Violets
a green Tincture, does not then the Argument
Dd 4 labor?

labor? may we not impute this *Phænomenon* to arise rather from a due mixture of the Principles, than from any vitiated Habit of Blood? But, secondly, there is another way of discovering an Alkaly besides that of its Appearance, and that is by its effects, to wit, its fermentation with Spirit of Vitriol. Now I aver this green Serum will not ferment with the aforesaid Spirit: Wherefore if it be an Alkaly, it is an Alkaly of a more particular nature. It must be granted that we oftentimes find in the Blood some Particles of a very warm nature predominant, in which cases I have found Acids to be of great use: but whether they are of an Alkaline nature or nor, I leave the Learned to determine. If they are Alkalies, then either fixt or Volatil; if fixt, how comes it to pass, that on the dissolution of the Texture of the Blood, they claim the highest place, and nothing will serve their turn, but they must needs swim in the Serum? If volatil, how is it that we many times find this warm Serum to be little better than insipid? Volatil Salts you know are aculeated, and affect the Palat strongly. May they not rather be of a sulphureous nature, since it is the nature of such Substances to sit uppermost on the dissolution of Bodies? But thirdly, if Alkalies are the Original of all Distempers, whence is it that in Dropsies, Catarrhs, some Gouts, and other Distempers, we find the Texture of the Blood so thin? 'Tis observable

‘vable that those Particles you term Alkalies,
‘the more the Blood is saturated with them,
‘of the more thick consistence it is, as we see
‘in Pleurifies, Rheumatisms, and other in-
‘flammatory Cases (in which Distempers, if
‘in any, these Alkalies abound) is not then
‘its Tenuity rather to be imputed to Acids?
‘Do not Acids immediatly put the Blood in a
‘Fusion, and render it thin? Besides, if Alka-
‘lies did always offend and cause Pain, it must
‘follow that Acids must give ease: But I as-
‘sure you I have often experienced the con-
‘trary; for upon the exhibition of Rhenish,
‘White-wine, and other Acids, I have found
‘the Pains immediatly exasperated, and many
‘times it has bin a long while e’re they went
‘off. Again, if the Gout proceed from an
‘Alkaly, what is the reason you use so much
‘Sassafras in its Cure? Is Sassafras an Acid,
‘and so proper to subdue this Alkaly? I have
‘only a word or two to speak concerning the
‘green Color of Syrup of Violets, and so I
‘have done. I believe it may be turned green
‘without an Alkaly: On the exhibition of it
‘to Infants it comes away green very often,
‘and brings away a great deal of green Matter
‘by stool; and yet I believe they do not a-
‘bound with Alkalies. You may read in a
‘late Author of undoubted Credit, that upon
‘an Infant’s swallowing a Dose of Testaceous
‘Pouder, an extraordinary Ferment was raised
‘in the Stomach of the Child: Now how
‘could

410 *Dr. Tuthill's Letter, &c.*

' could this Ferment be raised. if it had not an
' Acid to work upon? Besides, dos not Ex-
' perience shew that nothing is so proper in In-
' fants Distempers as Alkalies? I have some
' more things to offer; but I desire you would
' satisfy me as to these. I should be glad to
' close with your Opinion, and imbrace any
' thing that is new; for I believe Medicin,
' tho it has met with great Improvements of
' late, to be capable of far greater. I'll give
' you no further trouble, only after Thanks to
' you for your indefatigable Labor in search-
' ing out the Truth of things, subscribe my
' self

Your Humble Servant,

F. Tuthill.

The

*The Doctrin of ACIDS in
the Cure of DISEASES fur-
ther asserted, &c.*

Worthy Sir,

I Have read your Letter with all the Pleasure and Satisfaction imaginable, the Objections you have raised against my Hypothesis being the most solid and substantial I ever yet met with : And you may assure your self that I have so great a Value and Esteem for Truth, that I would not dare to contend for any thing which is the Product of my shallow Understanding, that in the least stands in opposition to it. But as I would not by any means in the world oppose Truth, so at the same time I would not be guilty of so much Cowardice, as to quit its Interest, because I meet with a multitude of Opposers. Tho your Objections carry the fairest shew along with them of any thing I have met with of this kind ; yet I don't at all doubt, but very easily to clear my self from them, which I shall endeavor to do with as much Candor and Friendship as you propose them.

Letter.

Letter. 'I have perused your ingenious
'Treatise of the *Gout*, in which you seem to
'accuse *Alkalies* as the Original of all Distem-
'pers: Before I subscribe to this Opinion, I
'desire to be satisfied in a few Points. The
'Grand Argument on which you build your
'Hypothesis, is taken from the green Color
'of the *Serum*, which arises from its mixture
'with Syrup of *Violets*. It must be confest,
'that *Alkalies* usually give it this Tincture,
'and there may be something of an Alkaly, or
'at least analogous to it, in the *Serum*: But
'notwithstanding this, the many Inferences
'which you are pleased to draw from this
'*Phænomenon*, in my opinion will hardly hold
'good.

Answer. As for my accusing *Alkalies* as the
Cause of all or most Distempers, I must con-
fess it was a very bold Undertaking, especial-
ly when by so doing I opposed such Multitudes
of Great and Learned Men, who by very stren-
uous and learned Arguments asserted the
quite contrary; whom I could not suppose but
that I should greatly displease, by disturbing
them in the quiet possession of an Opinion
that had long bin imbraced by all sorts of peo-
ple. I my self, as I elsewhere acknowledge,
was formerly as great a Stickler for the use of
Alkalies in the cure of Diseases, and did as
little believe that they were the Causes of
them,

them, as any one of my hottest Opposers now dos. The Methods by which I came to change my Sentiments I shall here faithfully relate to you.

While I was fairly jogging on in the ordinary Method of Practice, a certain Gentleman recommended to me a powerful Acid, which he told me I might rely upon in the Cure of some sorts of Fevers. When I consider'd the thing as an exalted Acid, I could scarce give the least credit to what he said, tho at the same time I knew he had no design to impose upon me. However considering the fatal Success that frequently attended the Use of *Alkalies* and *Alexipharmics*, (which however at that time I durst not attribute to the Medicins, but to the Malignity of the Distempers) I was resolv'd, upon the first poor Patient I had in a Fever, to try what the forementioned Acid would do: and after a Multitude of Trials, both upon Poor and Rich, I found I could by the means of my Acid cure most sorts of Fevers much more effectually and certainly than ever I before could by the means of *Alkalies* and *Alexipharmics*. The Effects of this Medicin (which is a very cheap one, and known to every body) back'd with some other Observations, put me upon thinking that Fevers and other Distempers did not procede from the Blood's abounding with Acid Particles, but on the contrary with *Alkalious* ones: for if it had abounded with Acids,
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the giving of more Acids must have aggravated the Symtoms; whereas on the contrary, I found by the means of my simple Acid (which however was communicated to me as the greatest Secret) I could take off the most dreadful Symtoms attending most Fevers, with all the ease imaginable. Upon which, being greatly in love with Chymistry and Chymical Operations, and having a convenient Laboratory, and all Necessaries at hand, I was resolv'd to examin the Blood of Persons in all Distempers as fast as I could conveniently procure it, to see what Substances abounded; and after a multitude of Experiments in most cases, I could never find any reason to charge Acids in any one. And that I may not be defective in my Duty to so friendly and ingenuous an Objector, I shall here trouble you with some of my first Experiments.

Experiment I.

July the 15th, I committed to Distillation the Blood of a corpulent Lady of a sanguin Complexion, who eats and drinks highly, and who had formerly for some years together an inveterat Leprosy, which I cured by *Cinnabarin* Medicins, &c. But at that time she had a severe Fit of a Rheumatism, occasion'd by taking cold. This Blood and Serum,

rum, as it came out of the Veins, weighed two Ounces, one Dram: I obtain'd from it 9 Drams of a clear Phlegmy Liquor a little impregnated with Volatil Alkalious Salt, which tho scarce manifest to the Taste, yet might readily be discerned by pouring a little of it upon some good Syrup of Violets, which it presently would turn green. Besides which Phlegmy Liquor, I obtain'd 5 Drams ten Grains of a strong Volatil Alkalious Spirit, as strong as the Spirit of *Harts-horn* usually sold in the Shops; 65 Grains of fetid Oil; and in the bottom of the Retort there remain'd 70 Grains of a light *Caput Mortuum*.

Experiment II.

July the 30th, I committed to distillation 7 Ounces 3 Drams of the Blood of a Woman who had for about three weeks labored under great Obstructions of her Nerves; she had a Lassitude and Faintness upon her, and in this time from Fatness she became very lean, and so weak as not to be able to go about the House: she likewise complained of a wonderful Coldness and Numbness in her Head, and was so deaf as not to hear any thing unless People spake very loud to her. She had always before this Illness bin used to eat and drink well, and was of a Constitution somewhat Phlegmatic. This 7 Ounces 3 Drams of Blood,

Blood, Serum, and all together, such as it came out of the Veins without standing to putrefy, afforded 4 Ounces 5 Drams of Phlegm; and in the Neck of the Receiver that caught the Phlegm a few Grains of Volatil Salt in a dry form, with which the Phlegm was so impregnated that it would readily turn Syrup of *Violets* green: one Ounce 5 Drams and 15 Grains of a strong Volatil Alkalin Spirit, two Drams six Grains of fetid Oil, and in the bottom of the Retort there remain'd two Drams two Scruples of a very light *Caput Mortuum*.

Experiment III.

August the first I committed to Distillation two Ounces and a half of the Blood of a Person in a deep Consumption, who had a constant Hectic, and coughed much, bringing up by Coughing a great quantity of purulent Matter: He was worn away to a mere *Skeleton*, his Appetite quite gon, and was so short-breath'd that he was not able to walk at all. He sweat much for the first part of the Night, and when the Sweats left him he burnt prodigiously. It produced one Ounce 6 Drams of Phlegm, 3 Drams and a half of a strong Alkalin Spirit, 35 Grains of fetid Oil; and 62 Grains of *Caput Mortuum* as light as a Feather.

Experiment

Experiment IV.

August the 4th I committed to Distillation the Blood of a Gentleman who had scrophulous, cancerous Tumors in two parts of his Body, which at some times would be ulcerated, and at other times after the use of a certain Remedy, the Ulcers would be healed; but the Tumors remain. This Blood weigh'd 3 Ounces six Drams and a Scruple: It produc'd 2 Ounces one Dram of insipid Phlegm, 7 Drams and a half of Volatil Alkalious Spirit; of fetid Oil 40 Grains, and of *Caput Mortuum* one Dram 18 Grains.

Experiment V.

AT the same time I committed to Distillation the Blood of a Gentlewoman who had for many years bin afflicted with the Stone in the Kidneys, and at that time labored under the most terrible Fit of the Gout that ever I saw: It weigh'd 2 Ounces 7 Drams, 2 Scruples and 7 Grains. It afforded 2 Drams of a most volatil Alkalious Spirit before the Phlegm; one Ounce 4 Drams of Phlegm, and six Drams twelve Grains of Volatil Alkalious Spirit of the common sort; 2 Drams of fetid Oil; and one Dram and half of *Caput*

E c

Mortuum:

Mortuum. The Volatil Alkalious Spirit that came over before the Phlegm in this Experiment, was what I never saw before or since; but her Fit of the Gout was also the most extraordinary that ever I met with, there being scarce a Joint of any of the extreme Parts that was not at one and the same time affected.

Experiment VI.

August the tenth I committed to distillation four Ounces two Drams of the Blood of a young man of a sanguin Complexion, and in a state of Health: It afforded two Ounces six Drams of Phlegm that was perfectly insipid, and so destitute of Volatil Alkaly, that an Ounce of it would but just discolor a very small quantity of Syrup of Violets. It afforded also five Drams of an Alkalious Spirit, three Drams of heavy Oil, and two Drams four Grains of *Caput Mortuum*; which being broke into small Atoms, each Atom appear'd in my Microscope to be so many little Bodies of Fire. This *Phenomenon* very rarely appears, but when it dos so, it is for the most part in the *Caput Mortuum* of the Blood of people in a state of Health.

Experiment

Experiment VII.

THE same day I committed to distillation the Blood of a Gentlewoman who for many years had a short convulsive Cough, and was always subject to an Obstruction of her *Menses*; she was then big with Child, and besides her Cough, complained of a Sickness in her Stomach, and a loss of Appetite, with a lurking Fever, and an Inflammation in her Face. It weigh'd 7 Ounces six Drams, and afforded 4 Ounces 4 Drams and a half of Phlegm, impregnated with a highly Volatil Alkalious Gas, that would readily turn Syrup of Violets green, and in quantity effervesce with Spirit of Niter, Sea-Salt, Vitriol, &c. It afforded also one Ounce 4 Drams of highly exalted Alkalious Spirit, one drop of which would turn a considerable quantity of a strong Solution of Syrup of Violets as green as Grass; about 10 Grains of light Oil that swam upon the Spirit, and 3 Drams of a heavy ferid Oil that sunk to the bottom of it; and 2 Drams 2 Scruples of *Caput Mortuum*.

Experiment VIII.

August the 11th I committed to distillation 3 Ounces 2 Drams of the Blood of a Man of a black swarthy Complexion, and of a highly scorbutical habit of Body. It afforded one Ounce 3 Drams and 10 Grains of Phlegm, with a little volatil Alkalious Gas mixt with it; one Ounce 15 Grains of a highly strong Alkalious Spirit; 2 Drams of fetid Oil, which all sunk to the bottom; and 2 Drams of *Caput Mortuum*.

Experiment IX.

August the 12th I committed to distillation the Blood of a Maid of a pale Complexion, who had what we call the *Green-sickness*: It weigh'd 3 Ounces 6 Drams, and afforded one Ounce 7 Drams of Phlegm, unmixt with Gas; one Ounce 2 Drams and a half of a strong Alkalious Spirit; one Dram two Scruples and a half of fetid Oil, which all sunk to the bottom; and one Dram and a half of *Caput Mortuum*.

Experiment

Experiment X.

I Committed to distillation three Ounces 2 Drams of the Blood of a worthy Gentleman, who was very Hypochondriacal, having had a great Pain in his Back and Hips for many years; once a month he had violent distending Pains in his left Side, and at that time was much troubled with Wind. It afforded of an insipid Phlegm one Ounce 6 Drams; of a highly impregnated Alkalious Spirit one Ounce two Drams and a half; of fetid Oil, which all sunk to the bottom, one Dram 17 Grains; of volatil Alkalious Salt, which stuck in the Neck of the Retort in a dry form, 17 Grains; and of *Caput Mortuum* one Dram 5 Grains.

Experiment XI.

September the 9th I committed to Distillation 3 Ounces of the Blood of an Honorable Lady, who had for two years a scrophulous Tumor in one of her Breasts, was of a very scorbutic habit of body, and subject to wandring Pains and nervous Obstructions. It afforded one Ounce 6 Drams of Phlegm, 6 Drams of strong Alkalious Spirit, one Dram 7 Grains of fetid Oil, and one Dram ten Grains of *Caput Mortuum*.

I could add a multitude of *Experiments* of this kind, but they belonging to another Piece, I have thought fit to trouble you with no more; and in relation to these few, I think it necessary to premise a few things, that I may make things as clear as may be.

To avoid the grand Objection, that by exposing things to violent Fires there are new Substances produced, that were not existent in the *Concrete* before, (which Objection I shall take occasion to make appear to be a very trifling one) I took the following Method, as the only one by which I could most clearly satisfy my self, being the most plain and easy one imaginable.

First I put the Blood as it came out of the Veins, *Serum* and all together, into a glass Retort with a very wide Mouth, to which I had a Receiver made as fit as possibly I could. I afterwards put my Retort into a sand Furnace, under which I made a very gentle Fire, which I increased by degrees, till the Drops began to fall at about a Second's distance one from another; in which state I continued it, till the Phlegm was all come over; and unless in one or two very extraordinary cases, I always found the Phlegm come over first: which perhaps to some may appear a Paradox, that what we commonly call *Volatil Spirit* and Salt should not rise before the *Phlegm*; but upon trial, I am sure whoever will give themselves so much trouble, will find it true. When it
had

had dropt so long that one Drop upon two Drams of a strong Solution of Syrup of Violets would turn it green, I chang'd my Receiver, and continued my Fire till nothing more would come over; and this last I call *Spirit*, having always a proportion more or less of a fetid Oil mixt with it. Now what we call Spirit of this kind, is only a proportion of volatil Alkalious Salt mixt with so much Phlegm as will well dissolve it: Therefore I confess the most nice way of making these Experiments, is to separat the volatil Alkalious Salt by it self, without any mixture of Phlegm; but every Experiment requiring a fresh Vessel, and the Vessels themselves being very chargeable, it would be almost impossible for any privat man to make a sufficient number of Experiments without the assistance of the Public; which occasioned me in the Preface to my Tract of the *Gout*, to propose a Public Stock to carry on this Work, to bring things to an absolute certainty, if possible.

However, tho these Experiments are not the most accurat that might be made, yet they are plain and easy, and capable of being made by those who want the common *Apparatus* for a Laboratory. An Iron Pot set up in the corner of a Chimny, with a few Retorts and Receivers, are all that are necessary for the making of these Experiments; wheras for the other sort there are required long bolt-Heads,

each of which will serve but for one Experiment, with nice Furnaces, and so much other charge and trouble, that few privat Men are either capable or willing to be at, to make such a number of Experiments that are requisite. But by the way I have set down, a man may make a vast number of Experiments for a small charge; it is but going by one Rule in the making of them: and I don't see, but a man may act with as much certainty as in the other, only I must confess it is more liable to the Objections of Cavillers; but for these I have no value, it being only for such candid ingenuous Persons as your self, for whom I am willing to take pains.

Let a man but nicely observe to change the Receiver, when one Drop will turn the Syrup of Violets green, and that Blood that affords the greatest quantity of such Spirit afterwards that abounds with such Particles, may reasonably be supposed, nay I think dos certainly appear to abound most with Volatil Alkaly, or at least what by all Mankind is taken to be such, it answering all the *Phænomena* that Spirit of *Harts-horn* and *Salt Armoniac* will do; affecting the Palat in the same manner, and making an Effervescence with all sorts of Acid Spirits, such as Spirit and Oil of *Vitriol*, *Sulphur*, *Sea-Salt*, *Nitre*, *Vinegar*, &c. Now if such a Substance as this be not to be call'd an Alkaly, I should be glad to be inform'd what
is;

is ; but it is what at present I call so for want of a better Name: and that Blood that by this simple easy way of Distillation affords the greatest quantity of Spirit of equal Strength, I cannot forbear to charge as abounding with a greater quantity of Alkaly than that which affords less. And in examining the foregoing Experiments, it plainly appears that the Blood of People laboring under the Distempers there mention'd, affords a much greater quantity than that of the healthy Person; that of the person in a Consumption affording the least of any of those in a morbid state, for which a very good reason may be given: the great quantity of luxuriant Alkaly being thrown upon the Lungs, which causes the Ulceration there, and the discharge of such a quantity of Pus or Matter afterwards as emaciated the Body even to a *Skeleton*.

As for the Fire's producing new Substances, which were not existent in Bodies before, or which is more pertinent to the point in hand, making Acids Alkalies or Alkalies Acids, or producing Alkalies or Acids from Bodies in which they did not exist before, I think there is not the least weight in it: I am sure it is contrary to my Experience, and I believe to the Experience of all inquisitive Chymists that have ever gon before me; tho I confess there have bin some superficial ones that have dream'd such things; but to the best of my apprehension, without the least reason for so doing.

doing. I never could find, manage *Vitriol* in what manner, or with what degree of Fire you please, but it will always produce an Acid Spirit; do the same by *Harts-horn*, *Blood*, &c. and it will always produce an Alkalious one, or at least what we call so: for if people will cavil about Words, we shall never have an end of Controversies; and indeed most of the Controversies we have had in the World have bin more about Words than Things; Men have contended more earnestly for the Shadow than the Substance. But my present Controversy with my Worthy Brethren is not such; our difference is whether Diseases proceed from the Blood's abounding with Alkalious or Acid Substances, things which differ much more than in Name, their Natures being directly opposit to one another. I confess some have complain'd both of me and others who have written concerning *Alkaly* and *Acid*, that we have not sufficiently explain'd what we mean by those Names: This I take to be a dispute about Words only, since there are few at this day, who upon the first view of any of those things of either Tribe, especially of the manifest ones, cannot readily give their Judgments to which they belong; and this even among those who are not Physicians: and therefore tho we may not be able perhaps to give an exact Definition of the Words, yet since by these Words all people know we mean such and such Substances whose Natures are directly

directly contrary, that ought to breed no difference. And for my part, I know no other use of Words, than by means of them to impart my Mind to others; if that Intention be once answered, I care for no more, but shall leave the *Philologists* to squabble as long as they please. But as for the producing either Alkalies or Acids by the means of Fire out of those Bodies in which they did not exist before, or the changing of an Acid into an Alkaly, or producing either out of the other that was simply one of them before; if any one will shew me such an Experiment, or demonstrat such a thing without fallacy, I shall own my self his humble Servant.

As for the Inferences I draw from the Serum of the Blood turning a Solution of Syrup of Violets from a blue Color to that of Greenness, being what all manifest Alkalies will do, all manifest Acids changing the same blue Color into Redness; I see no reason to recede from what I have said concerning it: For if it be true that all manifest Acids do change a Solution of Syrup of Violets from a blue Color to that of Redness, and all manifest Alkalies change the said blue Color into a green one; if the Serum of the Blood dos so change the Color, a man may, to the best of my apprehension, without presumption conclude, that that Serum which changes a Solution of Syrup of Violets from blue to green, abounds with Alkalious Particles: And I am sure if it a-
bounded

bounded with Acids, it would not fail of changing the blue Color of the said Solution into a red one. Which is what any man may easily try; let but a sufficient quantity of any Acid Spirit be mix'd with the Serum of a sick man's Blood, that will before in a small quantity turn a very large quantity of Solution of Syrup of Violets from blue to Greenness; if the Acid be so much as will overpower the Alkaly in the Serum, instead of turning a Solution of Syrup of Violets green, it will immediatly upon the mixing of it become red.

But that you may see I am not the only Person who has made use of this Experiment to distinguish between Alkalies and Acids, I shall produce an Authority or two for my so doing. Dr. *Fran. Andre* of *Caen*, in his *Discourse* concerning *Acid* and *Alkaly*, pag. the 65th, *English* Translation, tells us, That the principal Cause of permanent Colors comes only from the different nature and different mixture of Acid Salts with Alkaly Salts, which we may observe by divers Experiments.

Experiment I.

All Acids destroy blue Colors, and all Alkalies make them reappear.

Expe-

Experiment II.

Syrup of Violets, which is a Composition of Acid and Alkaly, becomes the fairest green in the World, when mingled with some Alkaly, as with Oil of Tartar made per deliquium, and reddish when some Acid is mingled therewith.

Swalve in his Tract of *Alkali and Acidum*, pag. 141. has it much to the same purpose: *Syrupum Violarum præ oculis habeto, quia suspectam habes Solutionem plumbeam per Acetum in Saccharum redactam. Syrupus ille ab Acido quorvis rufescit, ab Alkali virescit; hinc inservit aptissime dignotioni utriusque. Quodvis Acidum eum sistit rubrum, sicut quodvis Alkali viridem, fixa & volatilia uniusmodi sunt, &c.*

But my Hypothesis does not altogether hang upon so slender a Thred as the change of Color, tho that be a better Foundation than a great many Hypotheses are built upon. You may very well remember that I brought this Experiment upon the Stage only to satisfy Gentlemen who have not the conveniency of making more elaborat ones: And all Mankind having imbibed the Notion, that if any thing ail'd them, they immediatly concluded it proceeded from an Acidity of their Blood, I therefore thought it my Duty to convince them of the contrary in the most familiar manner I could; but I never expected that Physicians should take up with it, I referring them to a
more

more certain Method, *viz.* to analyze the Blood of their sick Patients, and to compare the Substances produced from it, with the Substances produced from the Blood of People in a state of Health: And if once they will but take that Method, I am morally certain that the number of my Enemies will every day decrease. But let People continue to say what they will of me, I shall endeavor to satisfy my self, and to act for my Patients with as clear a Conscience as possible: And if after all I am reproached by my Brethren, I must bear it as well as I can. It never will be in any Physician's power to make people immortal; but at the same time I am absolutely certain that peoples Lives are frequently prolonged by the use of proper Remedies; and I doubt not but they are also shortned by the use of improper ones: And if we are mistaken as to the Cause of Diseases, I don't see how we can readily find out proper Medicins.

Letter. ' For first if this Alkalized Serum
' is the Original of all Distempers, then it must
' follow that whersoever we find this Serum,
' there must be likewise a Distemper: now I
' appeal to your self if the Blood of a healthy
' Person will not give Syrup of Violets a green
' Tincture; dos not then the Argument labor?
' may we not then impute this *Phænomenon* to
' arise rather from a due mixture of the Prin-
' ciples than from any vitiated Habit of Blood?

Answer.

Answer. I confess this is close arguing, and much to the purpose: yet you may remember I no where say that the Serum of healthy Persons Blood will not turn a Solution of Syrup of *Violets* from a blue Color to that of Greenness; but on the other hand, I have asserted that the Blood of those laboring under any Distemper I have met with will do it, in order to prove that the said Distempers did not procede from Acids; because if it had abounded with Acids, instead of turning it from blue to green, it would, as before observed, have turned it from blue to red. Well, but still the Serum of the Blood of a Person in health will cause the same change in the Solution of Syrup of *Violets* as that of a sick one; and therefore to rid my self of that Difficulty is the great thing I have now to do.

First, I all along throout my Tract of the *Gout*, the Piece you refer to, and elsewhere, endeavor to prove that the Blood of Persons in a morbid state abounds more with Alkalious Particles than that of healthy Persons, but no where say that the Blood of healthy Persons has no Alkaly in it. And that the Blood of sick Persons in all or most Distempers abounds with such Particles more than that of such as are in a state of Health, is to be demonstrated several ways: *First*, if you take an equal Proportion of the Serum of the Blood of a healthy Person, and of that of a Person in a Fever, Pleuri-

Pleurisy, &c. and pour them into the same Quantities of Solution of Syrup of Violets of equal strength, you will find that wherein the Serum of the sick Person's Blood was pour'd, to be much greener than the other. *Secondly*, If you take two Ounces of the Blood of a healthy Person as it comes out of the Veins, Serum and all together, and two Ounces of the Blood of a Person in a Fever, Pleurisy, a Fit of the Gout, &c. and commit them to distillation in the same degree of Heat, you will find the Blood of the sick Person shall produce a much greater quantity of Alkaly than that of the Person in health.

Secondly, What shall I do with the Alkaly found in the Blood of healthy Persons? Because every body has some Alkaly in their Blood, must every body therefore labor under some Distemper? Why truly I can't say I ever met with a Person, who upon strict Inquiry had not some Complaint or other to make. Mankind since the Fall is subject to Death every moment; there being a Principle of Death, in opposition to that of Life, implanted in our Natures; and not only in ours, but in the Natures of every thing else for our sakes: *And God said to Adam (upon his Fall) Cursed be the Ground for thy sake, &c.* I confess many in our Age will laugh, and ridicule me for having recourse to Sacred Writ, especially to the Writings of *Moses*, which they look upon as Romance: but let 'em laugh on;

if there were not a Principle of Death within us, how is it possible for a Man one hour to be in a good state of Health, and the very next to be expiring? How this may be, I shall endeavor to demonstrat as clearly as possibly I can.

All the Alkaly that is to be found in the Blood is most certainly an Excrement, and in a way of being carried off by some of the Excretories; and if any of these chance to be stop'd, that this excrementitious Alkaly has not room to pass out, there is a Distemper of some kind or other caus'd, the Blood being overcharg'd with this excrementitious Matter. How many Distempers are occasion'd by what we call taking Cold, which is nothing but a Constipation of the Pores? What is the occasion of the *Jaundice* but an Obstruction of those Vessels in the Liver which separat the bilious Particles from the Blood? and what dreadful Distempers dos the Jaundice frequently cause? How are Mortals tormented by the Stone in the Kidneys and Bladder? and what is the original Cause of them, but an obstruction in the Kidneys, wherby the excrementitious Alkaly, which should be carried off that way, by its over-long stay in those parts is converted into that Substance we call a Stone? And whoever will give themselves the trouble of distilling Stones either from the Kidneys or Bladder, will find 'em compos'd of Alkalious Particles. I could expatiate, and give an account of the

Ff Cause

Pleurisy, &c. and pour them into the same Quantities of Solution of Syrup of Violets of equal strength, you will find that wherin the Serum of the sick Person's Blood was pour'd, to be much greener than the other. *Secondly*, If you take two Ounces of the Blood of a healthy Person as it comes out of the Veins, Serum and all together, and two Ounces of the Blood of a Person in a Fever, Pleurisy, a Fit of the Gout, &c. and commit them to distillation in the same degree of Heat, you will find the Blood of the sick Person shall produce a much greater quantity of Alkaly than that of the Person in health.

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Cause of all or most Distempers attending Human Bodies, from the excrementitious Alkaly not being carried off by the proper Emunctories. And I appeal to all candid ingenuous Persons, even my greatest Enemies, whether all the Excrements of our Bodies are not Alkalies. When I speak of *Excrements*, I don't mean that which is carried off by Stool, having told you in another place, that my squeamish Stomach would never give me leave to make Experiments upon that, to know what Parts it contain'd ; but every body knows that the greatest part, if not all of the Bile, is carried off that way ; and that the *Bile* is an Alkaly I suppose no body doubts.

I know many will reply, That they will allow me that the Matter, or at least the *Saline* Substance discharged by the *Glands* of the Skin, by *Urin*, the *Bile*, *Tears*, &c. are alkalious ; but, say they, there is another very considerable Excrement which I take no notice of, to wit, the Matter discharged from the Glands of the Mouth, call'd *Spittle*, which in all respects seems to be an Acid. To which I answer,

That the *Saliva* or *Spittle* is so far from being an Excrement, that it is one of the most noble Juices our Body affords, and the only *Menstruum* furnish'd by Nature for dissolving the solid Food we eat, and turning it into a nutritious Juice : For by chewing our Meat, we compress the *Salival* Glands, and cause them

them to throw out a sufficient quantity of the Juice contain'd in them ; which being mix'd with the Food, is carried along with it into the Stomach, where the Office of Digestion is perform'd. But those who swallow their Meat without chewing, seldom or never digest it, and are always lean. Now when I speak of *Saliva* or Spittle, I don't mean that inviscated, coagulated Substance which People hawk up in a morning, or discharge when they have a Cold as they call it, that being a degenerat *Saliva* ; but that thin, limpid Substance that some great Tobacco-takers lavishly let run from them : which is the only reason that the smoking of Tobacco takes away most mens Appetites ; for would they smoke Tobacco as a great and worthy Prelat and my self do, and as all the *Turkish* Nation do, which is to swallow their Spittle, they would rarely want an Appetite.

But that I may return to my proper business, which is to prove that all the Alkaly we have in our Blood is an Excrement, and in a way of being carried off as such, or for want of being carried off, would cause a Distemper of some kind or other. Here give me leave to acquaint you, that according to the best of my apprehension, the Matter of all our Distempers is the same ; but according to the difference of the Part immediatly affected, the Distemper differs. And indeed when I consider the wonderful Structure of our Bodies, of

what multitudes of minute parts it is composed, instead of a surprisal at our being sick and out of order so often as we are, I am e'en amaz'd to think we are ever well. All Alkalies that I know of, will presently cause Rottenness and Putrefaction in animal Substances, as may be seen in making of Glovers Leather, an Instance of which I have given in my Tract of the *Gout*, from a very good hand. Nay, it is a thing easily to be experimented by any one; for let but a piece of Flesh of any kind be put into a Liquor well impregnated with Alkaly, and in a small time (tho in the Winter, when things are not subject to putrefy) it will turn to a mere *Putrilago*, a Mass of Rottenness and Corruption: whereas let a piece of the same Flesh be put into Liquor impregnated equally strong with any Acid, and it will preserve it from Putrefaction. Alkalies, whether volatil or fixt, being applied to the Skin, will either cause a Mortification, or destroy the Tone of the Part; whereas Acids of equal strength will prevent Mortifications where they are actually beginning, and frequently restore the Parts to their Tone where it is lost.

But it may be reasonably askt, Where is the Acid in the Blood that dos us all that service you speak of, or what becomes of all the Acid we take in, you owning Bread to be an Acid, and several other things daily used by all Mankind;

kind ; when in your Analysis of the Blood you mention no such thing, and seem to intimat, that tho People take them in very great quantities ; yet they never abound so as to cause a Distemper ? This is what may reasonably be offer'd, and is very necessary I should clear as well as I can.

The Life of Man I take to be a Fire or Flame, and all we eat and drink, together with the Air we draw in, to be as Fuel for this Flame ; and that which is not proper Fuel for it is cast off as Excrement. Now I appeal to all Mankind conversant in Chymistry, whether the Excrements of Fire, or of the Fuel of which it is made, viz. *Ashes* and *Soot*, be not Alkalies ; and that our Lives are nothing else but a Flame or Fire of the same nature with that commonly used, or very analogous to it, I think is plain.

It is the nature of all common Fire to consume whatever is a proper *Pabulum* or Fuel for it, and to leave its Excrements behind it, which, as before observ'd, are *Ashes* and *Soot* ; in the *Ashes* is contain'd a fixt Alkaly, and in the *Soot* a volatil one. It is very plain that the Body of Man would soon be consum'd, unless supplied with proper Food ; and how could this be, unless there were something to consume it ?

Common Fire cannot subsist where there is not a due access of Air to it : Is it not the very same thing with the Life of Man ? let

him but be inclosed in a place where the Air is not capable of coming at him, and immediately he expires. It's well known that 'tis the common practice of Miners, and those who have occasion to go into subterraneous Vaults or Passages, to carry Candles, Torches, or some such things along with them, not more for the convenience of the Light they afford 'em in such dark Places, than for their security against the most imminent Danger, *viz.* the loss of their Lives: for as soon as they once perceive their Lights to grow dim, common Prudence and Experience teaches 'em to retreat; and whoever has chanced to be so fool-hardy as to advance after the Light has bin extinguish'd, has scarce ever return'd either to repent, or give an account of his Folly. A fatal Accident of this kind happen'd to two Men in a great Vault belonging to my Father's House, into which, if we put a large Pan of Charcoal well lighted, they would be extinguish'd in a moment; and the two Men before-mention'd, as near as we could guess, lost their Lives in as small a time.

Heat and Warmth are the constant concomitants of Fire: And that there is both Heat and Warmth in the Body of Man, none that has his Senses will deny. Now why should I make a distinction between Heat and Warmth, when they only differ in degree? But not to stand any longer about that matter: How is it possible for the Heat of our Bodies to be sustain'd,

tain'd, unless there were a Fire within us to do it? We are generally as hot, if not hotter in Bed, tho we use no Exercise to excite the motion of our Blood and Juices, than when we are up and in motion. Nay, mere Motion, let the great *Des Cartes* and his Followers say what they will, will never cause any Heat in fluid Bodies, tho excited never so much: I confess in solid ones, upon violent Friction or the like, there will a Heat arise; but what relation has that to us, when we are asleep?

There is a receiv'd Maxim, that there is no Smoke but there is some Fire: Every body must be sensible what vast quantities of Steams are continually discharged from all parts of our Bodies; and how that comes to be, unless from some Fire within us, I cannot understand.

I confess I have the concurrence of some of the greatest Men perhaps in the world, that the Life of Man is a Flame; but at present I have not leisure to peruse their Writings to see what they have said on this Subject.

If any man shall ask me, how this Flame came to be first kindled? I shall make no other reply, than desire him to inform me how the *Ovum* came to be impregnated with the Masculin Seed, so as to make it capable of producing a Human Body? and when he has done that, I will tell him how this Flame came to be first kindled.

The next thing I have to do, is to consider what is the proper *Pabulum* or Fuel for Fire ; and this every body knows must be something sulphureous. Now there is scarce a *Sulphur* we know of that is not combin'd with an *Acid* ; Sulphurs seeming to be the genuin Vehicles for Acids, with which they are generally united, few Sulphurs being void of Acids, and few Acids void of Sulphurs ; and as the one or the other predominats, so they are denominated either *Acido-Sulphurea* or *Sulphureo-Acida*. As Sulphurs are the Vehicles of Acids, so Acids seem to be a sort of *Vinculum* to Sulphurs, by which they are hindred from Dissipation. Whenever a Sulphur is void of Acid, it is of so volatil a nature, that it is scarcely to be preserved from Dissipation : Not that I suppose any Sulphurs to be perfectly destitute of an Acid ; but the less Acid they have mixt with them, the more volatil they are ; such are *Rectified Spirit of Wine, Camphire, &c.* And Mr. *Godfry* assures me he can make Spirit of Wine so volatil, that a drop of it won't fall to the ground, but disappear almost as soon as it is disingaged from the Mouth of the Bottle in which 'tis contain'd. Now the purer the *Pabulum* is, the less Excrement is produced. Spirit of Wine and Camphire produce little or no Excrement at all ; whereas *Oil Olive, Bees Wax, Tallow, &c.* afford a great deal of Soot, in which is contain'd the volatil Alkaly. Most Vegetables commonly in use for burning,

ing, afford a great quantity both of Ashes and Soot, some more of one, and less of the other; as *Oak* a great quantity of Ashes, in which is contain'd the fixt Alkaly, and but a little Soot, in which the Volatil Salt is contain'd. *Beech* on the other hand produces but a small quantity of Ashes, and a large quantity of Soot: this is what I have bin inform'd of by those who burn quantities of Wood. The Substances we live upon, and are nourish'd with, are not to be reckoned among the number of those which afford no Excrement upon burning. And by the way I can't understand what should become of all we eat and drink, unless, as before observed, there were a Fire or Flame within us to consume it; and the Consumption is so great that we are not able to live without a constant and frequent Supply. And that which to me is none of the least Arguments to prove that our Life is a Flame, is what is manifest by every day's Experience, *viz.* Let a very fat Man be seiz'd with a Fever, or any such Distemper, attended with a total loss of Appetite; the Fat, which is the proper Fuel for Fire, will first be consumed: and in such Distempers it is frequently seen that very corpulent Persons will in a small time be wasted to a Skeleton, when at the same time the sensible Evacuations of Urin and Stool are less than in a time of Health; which thing could not be, unless there were a Flame to cause that Consumption: And wherever there
is

is a Fire or Flame, especially when supplied with gross matter, there must be a throwing off of Excrements; which is the reason that the Blood in Fevers, and other Distempers of that nature, abounds more with volatil Alkaly than that of well People, because the Flame is more excited at that time; and the secretory Vessels design'd for that purpose being some way or other obstructed, cannot carry off the Excrements so fast as they are produced.

Let us consider what all the Alkalious Salts, whether volatil or fixt, are. I suppose no one can produce me a fixt Alkaly, which is the bare Product of Nature: the very Name it self being derived from the Salt of the Ashes of the Herb *Kaly*, as I have observ'd in the *Appendix* to my *Essay of Alkaly and Acid*, in concurrence with several Authors, who have written on the same Subject; tho none that I know of have ever written upon it from the same design with my self. But to shew I am not singular, I shall produce two or three Authorities. *Swalve* in his Treatise of *Alkaly and Acid*, pag. 48. defines it thus. *Originem nominis Alkali ab incineratâ herbâ Aegyptiacâ Kali desumptam haud ignoras: Salibus illud fixis & lixivialibus abhinc applicatum; illudq; primariò judicatum Alkali, quod Genesin suam è cinere & lixivio traxerat.* *Tachenius* in his *Hypocrates Chymicus* defines it much after the same manner. *Fit itaq; Sal Kali ex herbâ Kali,*
magna

magna copia in Aegypto proveniente, quæ ibidem viridis exurit, & ad nos transfertur; à quibusdam vocatur etiam Soda, Alumen catmum, & vero nomine Sal Kali appellatur; non reperitur tamen Sal Kali in Natura, nec in omnibus tribus Regnis, nisi ab Artifice ignis ope producat.

For my own part, I could never yet see any such thing as a *fixt Alkaly* obtain'd any other way than from the Ashes of Plants, which are that part of 'em that is altogether unfit for Fuel to common Fire, they plainly appearing to be an Excrement, and such as will rot and destroy all Bodies, especially Animal ones, that they are mixt with. In Animal Bodies there is no such thing to be found unless in the Bile, which is an Excrement, and seems to be as genuin an Excrement of Fire as any thing whatsoever, both from its burnt Taste, Color, &c. and I am sure if detain'd in the Body, will play the Devil.

As for *Volatil Alkalies*, they are to be found in *Soot*, in *Plants* after putrefaction, in *Urin*, in *Horns* and *Hoofs* of Animals, and in *Blood*; and tho Sweat abounds with a great quantity of it, yet 'tis not to be obtain'd in quantities sufficient to draw Volatil Salt from it. Soot is the volatil Excrement of Fire, or of the Matter of which Fire is made. Urin is an Excrement of our Bodies, and the volatil Salt in it the Excrement of Animal Fire, or of that which is its *Pabulum* or Fuel. The Horns and Hoofs of Beasts are generally allowed to be excre-

excrementitious parts of their Bodies, and afford the greatest quantity of Volatil Salt of any thing besides. As for Blood, the Volatil Alkaly obtain'd from it, is only the excrementitious part of it, or rather of the vital Flame, or the *Pabulum* of it, in a way of being carried off by some of the Emunctories, which, if it be obstructed in its passage, affects the Body with some Distemper or other. As for the Volatil Salt obtain'd from Plants after putrefaction, I shall give you a particular account of it, because some men have made a great stir, and spent a great deal of time in quest after it, supposing it one of the grand Medicins of Nature. Most, if not all Vegetables do principally consist of a volatil Acid and a Sulphur, which make them a proper Fuel for Fire: Now let any of the *Aromatic* Plants, such as *Rosemary*, *Sage*, *Lavender*, *Mint*, &c. be well dried, and afterwards put into a Hole in a moist Cellar, and ramm'd down very hard; let them lie without a Cover till they grow hot; after they have done so some time, and the Acido-sulphureous parts are exhal'd (which is much the same as if they had bin burnt) they will contract a stinking ill Smell: when they are in this state, put 'em into a tall glass Body, with a glass Head, and in a gentle heat of Sand you will obtain a volatil Alkalious Spirit and Salt, good for nothing I know of but to bring other Bodies into the same state of Corruption that the Plants
from

from which it was extracted were before it was drawn from them. Thus I have let you see what is my Judgment concerning *Alkalies*, and how they are produced.

But for the *Acid* we take in as Food, or otherwise, that, together with the *Sulphur*, is used as a *Pabulum* or Fuel for the vital Flame; and were not the sulphureous Particles in some measure supprest and detain'd by means of an Acid, the thred of our Lives would be very short. Dr. *Andre* of *Caen* in *Normandy*, in his Discourse of *Alkaly* and *Acid*, speaking of Acid, pag. 21. Engl. Translation, says, *There is nothing in this World which owes not its birth to an acid Salt: Nothing can live or be multiplied without it: It is that Soul of the World, of which the Antients have so often told us.* Tachenius in his *Clavis Hippocratis Medicina*, from pag. 3, to 11. gives great *Encomiums* of it, some of which I shall here transcribe. Speaking of *Acid*, he brings in *Lullius*: *Nos & multi alii, inquit, vocamus illum Filium Solis; nam primò per Solis influentiam fuit generatus per naturam sine adjutorio scientiæ vel artis; & idè Aristoteles vocavit Solem patrem, & Terram matrem omnium vegetabilium, &c.* He afterwards says, *Acidum itaq; est & pingue antiquissimum principium, & omnium rerum vita & fons, quod variis nominibus nominarunt Scriptores, ut Ignem, Solem, Aurum, Spiritum, Sulphur, Formam, & sexcentis aliis nominibus, quæ omnia synonyma sunt; estq; eadem res, cui ta-*
men

men diverso respectu diversa nomina imponuntur; nobis tamen eam hic & ubique commodiore opportunitate Acidum vocare libet. Again, A Sole itaq; ut a fonte defluunt Acidum naturale & Lumen vitale, quæ reipsa sunt idem, sed officio distinguuntur: Acidi enim munus est ad interiora Natura penetrare; luminis verò exteriora patefacere, utcunq; solis radii operentur; adeoq; Sol est primum naturale organum, cujus accessu & recessu omnes naturæ operationes variæ reguntur, intenduntur ac remittuntur. Hinc Cosmopolita ingeniosissimus, si non esset vis vegetabilis sulphuris (id est Acidum pingue & filius solis) non coagularetur aqua in herbas: si itaq; Acidum à sole fluens infunditur in materiam, ex. gr. mineralem statim recipit determinationem naturæ, & virtutis mineralis: & sic de cæteris animalibus, & de Vegetabilibus rebus dixit Lullius; & propterea quòd hæc aciditas naturalis omnibus mundi materiis copulatur, Mercurii nomen à sapientibus adepta est. Et licet oculus vulgi quotidie videat Acidi naturalis multiplicationem, necnon incorporationem, attamen illud non cognoscit: exempli loco sit minera salis petra Patavii jam evacuatæ, quæ quinque vel septem annorum decursu rursus repletur, est enim terræ ejus nutritrix, Hermete teste, unde hic spiritus in illa corpus assumit, atq; fit inflammabile nitrum.

Acids are without doubt the most perfect Bodies in Nature, since they cannot undergo a Putrefaction; and what we take in by our Mouths is so far from being too much for us, that

that besides it we are not able to live without drawing in fresh supplies from the Air every moment ; and that the Air is fill'd with Acid Salts, a Multitude of common and obvious Experiments do evince : as for instance, Let *Vitriol* be distill'd with the most violent Fire imaginable, so as not to yield the least drop of Acid Spirit more ; do but take out the *Caput mortuum* or *Colcathar*, and expose it to the open Air under a Shed, where it may not be rain'd upon, and in a few months it will become good *Vitriol* again, and yield as much Acid Spirit as it did at first time ; and this it will do *ad infinitum*. The same thing may be done by the *Caput mortuum* of Sea-salt, Nitre, &c. Now if the Air did not abound with Acid Particles, from whence came those insipid Bodies that were totally deprived of the Acid they had in them by the first Distillation, to regain the same quantity of Acid they had before they were distilled ? If you expose the *Caput mortuum* of those things that by Distillation had afforded an Alkalious Spirit or Salt, that *Caput mortuum* will never regain its Alkaly again, let it lie never so long ; which argues plainly that the Particles of the Air are not Alkalious : And therefore were Acids so injurious to mens Bodies as some would have us believe, every Draught of Air we take in must poison us, since it is full of Acid Particles ; and I believe no body doubts but the Air has a free Communication with

with the Blood, if not by the Lungs, at least by the receptory Pores of the Skin: But I think it's plain there is a Communication with it both ways.

By all the ways I could yet contrive, I have not bin able to procure one Grain of pure Acid from the Blood of either healthy or sick People: but in the before recited Experiments you find always a proportion of fetid Oil, with which the Acid is imbodyed to make it a proper *Pabulum* for the vital Flame; and when once *Acid* and *Oleaginous* Bodies are well united, which they will readily do, it is no easy matter to cause a separation of them. Now the reason this Oil has such a very ill Savor, is from its coming over the Helm along with the Volatil Alkaly; all Alkalies, whether volatil or fixt, giving a very ill smell to sulphureous oleaginous Bodies, especially if exposed together to a great degree of Heat; and the Heat required to bring 'em over the Helm is much greater than that of our Bodies, tho in a burning Fever: Yet from the Action of the Volatil excrementitious Alkaly upon the sulphureous parts of the Blood, may I think a good reason be given for the Symptoms that attend most, if not all Fevers; for all Alkalies destroy Sulphurs, as may be seen in the making of *Soap*, *Hepar*, *Sulphuris*, &c. Sulphurs are the active Principle in both Animal and Vegetable Juices; Alkalies in breaking and dividing the Particles of the Sulphurs excite Fermentations, and by degrees

degrees cause a total diffipation of them. Acids are a sort of *Vinculum* to Sulphurs, and therefore suppress Fermentations, keeping the Sulphur from diffipation: From whence I infer that a true *Oleosum* must be the great Medicin; yet it is not such a one as commonly goes under that name, which is only a Combination of volatil Alkaly with Spirit of Wine and Aromatic Oils or Spices; but it must be an *Acido-oleosum*, an exalted Acid, combin'd after the foresaid manner, by which the Life of Man it self is chiefly supported.

If any one asks me what I mean by *Sulphur*; my Answer is, whatsoever is inflammable. And with such kind of Substances the World is almost every where fill'd: For without them neither the Lives of Men nor Beasts could be any way supported; and therefore such places as are best supplied with them, are very well stockt with Animals of all kinds; whereas those that are deficient of them, such as the Desarts of *Arabia*, &c. are almost wholly destitute of all kinds of living Creatures.

Letter. 'But secondly, there is another way of discovering an Alkaly besides that of its Appearance, and that is by its effects, to wit, its Fermentation with Spirit of *Vitriol*. Now I aver this green *Serum* will not ferment with the foresaid Spirit: Wherefore if it be an Alkaly; it is an Alkaly of a particular nature. It must be granted that we

‘ oftentimes find in the Blood some particles of
‘ a very warm nature predominant, in which
‘ cases I have found Acids to be of great use:
‘ but whether they are of an Alkalin nature
‘ or not, I leave to the Learned to determin.
‘ If they are Alkalies, then either fixt or vo-
‘ latil; if fixt, how comes it to pass, that on
‘ the dissolution of the Texture of the Blood
‘ they claim the highest place, and nothing
‘ will serve their turn, but they must needs
‘ swim in the *Serum*? If volatil, how is it
‘ that we many times find this warm Serum to
‘ be little better than insipid? Volatil Salts
‘ you know are aculeated, and affect the Palat
‘ strongly. May they not rather be of a sul-
‘ phureous nature, since it is the nature of such
‘ Substances to sit uppermost on the dissolution
‘ of Bodies?

Answer. I own ’tis one of the genuin and
constant Effects of an Alkaly to cause an Effer-
vescency, when mixt with Spirit of *Vitriol* or
any other Acid Spirit; but whether this Effer-
vescency may be accounted a Fermentation, I
greatly question: tho Alkalies will excite Fer-
mentation in fermentable Liquors, as is well
known to many Mechanics, and I fear too
well by the Brewers about this City. What
you mean by the *green Serum* which will not
ferment or effervesce with Spirit of *Vitriol*, I
cannot tell: But sure I am, if you put a little
Spirit or Oil of *Vitriol* into a small bottle, and
pour

pour some Serum of Blood that will turn Syrup of Violets green upon it, 'twill immediatly become intently hot, and a great many Bubbles will presently rise, which looks very like a Fermentation, if it be not one: therefore when you made this Experiment, on which you are so positive, there must needs be some Error committed; for upon your urging this thing, the first opportunity I had, I made the Experiment afresh, and it succeeded the very first time; and I doubt not, but if you give your self the trouble of making it again, it will not fail of succeeding.

As for those warm Particles that you say are often predominant in the Blood, I must confess I don't understand what you mean by them: the Blood, while we are in health, is always warm, the reason of which I have before given. If we have a Fever, the Blood exceeds its natural Temper, according as that is more or less violent. Now the cause of this Excess of Heat in a febril state I take to be as follows: In most Fevers, especially in the beginning of 'em, there is a Constipation of some of the Emunctories; so that the excrementitious Alkaly that should be carried off by them, is detain'd in the Blood, which by breaking its Globules, and dividing the sulphureous Particles, which are the *Pabulum* of the vital Flame, dos either excite what we call a *Fermentation*, or rather by dividing the sulphureous Particles, and subduing the Acid

that held them together, increases the Flame to an intense degree. An Instance of which we have in common Fire, as I have elsewhere taken notice, and shall here repeat, *viz.* Let the matter of which Fire is made be laid close together, and then kindled, and it will consume leisurely and by degrees; whereas let the parts be laid at some little distance one from another, and they will consume with a rapid and intense Flame. *Salt-Petre* also and *Brimstone* mixt together, will burn with a gentle and easy Flame; but by adding a proportion of Charcoal-dust (as in making Gunpowder) in which is contain'd the fixt Alkaly of the Wood, this Alkaly, by causing a division of the Particles of the Nitre and Sulphur, so alters the property of it, that instead of burning placidly and easily, the least spark of Fire falling into it, will cause an Explosion, that is, make it take fire all at once, and so be consum'd as 'twere in an instant. Are not the Attacks of some Fevers and other acute Distempers very like this Explosion, wherein Nature seems to be overthrown, and the whole Course of it disorder'd almost in an instant? This at present is all I think necessary to observe concerning the warm Particles you speak of; and that Acids are the only Medicins to suppress this unnatural Heat, I think I have already made appear. As for the Inferences you are pleas'd to draw from them, I think I have nothing more to do than slightly to touch at
em,

'em, they having already fallen under my consideration: And I have sufficiently demonstrated that Alkalies are the Causes of all preternatural Heats in our Bodies.

But supposing preternatural Heats occasion'd by the superabundance of Alkalies in the Blood, you still seem to be dissatisfied about them also: 'For, say you, if they are fixt ones, 'how comes it to pass that on the dissolution 'of the Texture of the Blood, they claim the 'highest place, and nothing will serve their 'turn but they must needs swim in the Serum? 'If volatil, how is it that we oftentimes find 'this warm Serum little better than insipid? 'Volatil Salts you know are aculeated, and 'affect the Palat strongly. May they not rather be of a sulphureous nature, since 'tis the 'nature of such Substances to sit uppermost on 'the dissolution of Bodies?

First, I don't remember I any where said that fixt Alkalies do claim the highest place in the dissolution of Bodies, and that they swim uppermost in the Liquors in which they are dissolv'd: But this I believe you infer from my Experiment with the *Serum*, which is the lightest part of the Blood, and therefore is uppermost in the Porringer after it has stood some time, and a Separation is made in the parts therof. Now I did not make use of the Experiment with the Serum and Syrup of Violets, to intimat that Serum only was over-impregnated with Alkalious Particles; but

that being the most colorless part of the Blood, was therefore most proper for such an Experiment: For should I have made this Experiment with the fibrous and globulous parts of the Blood, which are combined together in one mass, they are so imbued with a Scarlet Dye, that a small quantity of it would tinge a great quantity of Solution of Syrup of Violets with the same Color, tho at the same time it were greatly overcharged with Alkalious particles. Therefore in my plain and easy way of analyzing the Blood, I made use of it altogether as it came out of the Veins. But if a man considers with what Rapidity the Blood moves along the Vessels, 'tis impossible but all the parts must be so mixt together, that if the Serum be overcharged with Alkalious particles, the other parts must be so also; or if the other parts be overcharged, the Serum must in like manner be so. But however, as for fixt Alkalis, the Blood is very rarely overcharged with them, the Substances we take in for our nourishment affording very little of 'em after burning; and therefore Nature has provided but one Emunctory for the carrying them off, *viz.* the *Ductus Biliaris*, which empties it self into the *Duodenum*, and is conveyed off along with the Excrement of our Food by stool: Whereas there are Millions of Emunctories, besides that great Discharge made by Urin, to carry off the volatil Alkaly. But if at any time the Glands of the Liver are

so

so obstructed, that the fixt Alkaly cannot be separated from the Blood, what fatal Effects does it produce?

I scarce ever knew a true *Ascites* (which is that kind of Dropsy that is very rarely to be cur'd) which has not had its Origin from an Obstruction of those Vessels in the Liver that separat the Bile from the Blood. Nay, frequently they have a Jaundice upon them thro the whole Course of the Distemper. But if not so, yet I never knew an *Ascites* that had not a Jaundice preceded it; and in what manner the whole Oeconomy of the Body is destroy'd in this Distemper, is but too well known. But this is not the only Distemper that has its origin from the obstruction of these Vessels, tho it be one of the most dangerous.

[Since the publication of the first Edition of this Tract, after much serious consideration, I have at last pitch'd upon a Method by which I have cured some few inveterat Belly-Dropsies, which us'd to be accounted incurable by every body; and that none may fall a Victim to this dreadful Distemper, to whom I am capable of affording any relief, I shall presume to give an account of it in this place.

℞ *Sem. Urticae unc. duas; Bardanae, Fraxini, Apii, ana unc. unam; Baccar. Juniperi ʒ i ss. Aceti squillitici, Sp. Juniperi, ana ℥ unam. Digerantur leni calore in vase vitreo optimè clauso per horas 24, & coletur; colatura reservetur ad usum.* G g 4 The

The Dose of this Tincture is from two to three or four Spoonfuls; first in the Morning, and nothing to be taken afterwards for two hours at least. It will frequently work both by Vomit, Stool and Urin: nay, in general it promotes all the Secretions, which is principally to be regarded in this dismal Case, all the Secretions of the Body being generally spoiled, but principally that of the Kidneys: and if once we can but bring our Patients to make water freely, our greatest difficulty is overcome; which the continued use of this Medicin will frequently effect. But considering the Tone of the Parts of the Body is universally weakned, by reason of so great a load of excrementitious Matter lodg'd upon them, but more particularly the Liver, Caul, Guts, &c. which are the Parts contain'd within the Cavity of the Abdomen, it is altogether reasonable, that proper Corroboratives should at due intervals be given, that thereby we may keep the ground we gain by Evacuations: and therefore in the Afternoon I order the following Medicins, or something like them.

℞ *Salis Martis, Succini, ana ℥ i. Myrrha elect. 3 ij. Macis, Nucis moscata, ana 3 ss. Conf. Absinthii Romani 3 iij. Syr. e Prassio q. s. f. Elect. in sex bolos distrib. sumat. unum qing. diebus horâ quintâ pomeridianâ, superbibendo 3 iv. Vini Medicati sequentis.*

℞

℞ Cardamomi, Cubeb. Galangæ, ana ℥ i.
Fol. Marrubii albi, Absinth. Roman.
Centaurii, ana p. iij. sem. Urtica ℥ i. Vini albi,
vel Rhenani ℔ ij. Infunde clausè & calidè per
horas tres, & coletur; colatura reservetur ad
usum.

℞ Sp. Salis Dul. vel nitri Dul. ℥ ss. su-
mat gut. x. vel xv. in omni haust. potus.

I have scarce seen one Person opened, that
has died of a Belly Dropsy, whose Caul has
not bin either perfectly rotten or full of œde-
matous Tumors; and therefore to prevent Ac-
cidents of that nature (for after the Caul has
once begun to mortify, I am afraid all At-
tempts will prove fruitless) I order the whole
Abdomen to be well fomented morning and
evening with the following Fomentation, ap-
plying afterwards a double Flannen well im-
pregnated with Oil of Juniper.

℞ Flor. Chamomillæ, Lavendulæ, ana m. ij.
Fol. Absinthii Rom. Ruta, ana m. i. Sem.
Urtica ℥ ij. Calami Aromat. ℥ iv. Aceti Acer-
rimi ℔ iij. Spirit. Vini Com. ℔ ij. Infunde
clausè & calidè in Vase terreo Vitriato optimè
clauso per horas quatuor, & coletur; colatura re-
servetur ad usum.

People under these Circumstances are generally thirsty to the last degree, occasioned by the great redundancy of Bile: but considering the Secretions are all spoil'd, and that the taking in of Fluids, when there is no passage to discharge their superfluous parts, is only to exasperate the Malady; therefore they ought to be kept from Drink as much as may be: and *Helmont* says that he knew one cured of a deplorable Belly-Dropsy by a total Abstinence from all manner of Liquors. Yet considering the intenseness of the Thirst that generally attends them, I think it the greatest Cruelty imaginable totally to debar them from the use of that which they so urgently desire; and since they must have Drink, they ought to have such as may be little or no way prejudicial to them; nay, if possible, what may be of use and advantage to them. Malt Drink of all sorts they must abstain from as Poison; and by the way, more Ale-sellers die of this Distemper than of any other Trade or Profession. The best Wine is either White-wine, Old Hock, or any of the Diuretic Wines; but the sweet and clogging Wines are altogether pernicious: But instead of Wine, I would recommend such an *Apozem* as that which follows.

R. Rad. Graminis, Asparagi, ana \bar{z} i. ss.
 Sem. Urtica \bar{z} vi. Tartari Rhenani \bar{z} ss.
 Aq. Font. \mathfrak{b} iij. coque ad tertiae partis consumptionem, & coletur; colatura adde Vini Albi vel
 Rhenani

Rhenani lib. i. *M. f. Apozema, sumat pro potu ordinario.*

If there be a prostration of the Appetite, I then prescribe the following Tincture, half a spoonful of which to be taken half an hour before dinner in a Glass of White Wine or Old Hock.

℞ *Sp. Hieræ Picræ* ℥ i. *Croci Ang.* ʒ ii.
Calami Aromat. ʒ iiij. *Aq. Gent. Comp.*
 ʒ vi. *Digerantur leni calore per horas quatuor;*
Postea decanta Tinct. claram, cui adde Tinct. Martis Mynsichti ℥ i. *M.*

If a Cough attends them, which is generally it does, the following Linctive is as proper a thing as they can take.

℞ *Syr. Aceti, è quinque Radicibus, ana*
ʒ i. fs. Sacch. Penid. ʒ i. *M. f. Linctivum, sumat Cochleare unum frequenter, præcipuè urgente tussi.*

As for their Food, they may eat any thing their Stomachs crave, unless it be Milk and Milk-meats: As Sauce with their Food, they may eat Oranges and Lemmons as plentifully as they please.

I could expatiate largely upon this Subject; which should I do as amply as the thing requires, it would be fitter for a particular
 Tract

Tract of it self, than to be inserted here. But if what I have now said be taken in good part, as occasion offers it self, I may hereafter say more.]

Secondly, As for what you say concerning the Insipidness of the Taste of the warm Serum, I suppose you mean that Serum which is overheated in Fevers, &c. the Serum being always warm while People are alive. I can assure you it is contrary to my long Experience; for it has bin my custom many years to taste the Serum of the Blood not only in Fevers, but all other Distempers, where I have had occasion to prescribe Blood-letting; and in some Fevers I have found the volatil Salt to bite my Tongue severely, but never once could find the Serum insipid: and by this way of tasting I can better judg of the Condition of my Patient than from the Color of the Blood. But in those cases where the Serum is much inviscated, as in most Pleurisies, Rheumatisms, and many Fevers, the Volatil Alkaly is so involved, that it affects not the Taste very strongly, tho it is never insipid that I could yet find. As for volatil Salts being aculeated, and affecting the Palat strongly, I am glad you take notice of it, since the general Notion that most people have of all Alkalies is, that they are of such a sweet, soft, mild nature, as to carry a sanative Virtue along with them wherever they go.

Thirdly,

Thirdly, I own that sulphureous Substances are wont to sit uppermost in the Dissolution of Bodies ; and that the Blood is impregnated with such Substances, I am far from denying ; but they appear in all respects to be equally distributed thro all its parts : but suppose they should sit uppermost here, and the Serum more impregnated with them than the globulous and fibrous parts of the Blood, sulphureous Substances won't change Syrup of Violets from blue to green ; and the Serum abounding with those Particles that will do so, which are Alkalies, these Alkalious Particles by breaking and dividing the Particles of the Sulphur will increase and excite the Flame I have before taken notice of, to a more intense degree : For the Serum would not be the more hot, supposing it did abound with sulphureous Particles, unless the said Particles were some way or other inkindled.

Letter. ' But thirdly, if Alkalies are the
' Original of all Distempers, whence is it that
' in Dropsies, Catarrhs, some Gouts, and o-
' ther Distempers, we find the Texture of the
' Blood so thin ? 'Tis observable that those Par-
' ticles you term Alkalies, the more the Blood
' is saturated with 'em, the more thick con-
' sistence it is of, as we see in Pleurisies, Rheu-
' matisms, and other inflammatory Cases (in
' which Distempers, if in any, these Alkalies a-
' bound) Is not then its Tenuity rather to be im-
' puted

'puted to Acids? Do not Acids immediatly
'put the Blood in a Fusion, and render it thin?

Ans. In most inflammatory Cases, where the Blood is immediatly affected, the Serum is viscous and fizy, being overcharg'd with Alkalious Particles; but in those Cases you mention, and in some others, where the Blood is over thin, it is not the over-thinness of the Blood that is the only cause of those Diseases, but a destruction of the Tone of the Parts; and where the Tone of any Part is once spoiled, the great quantity of excrementitious Matter is soon thrown thence, *viz.* from the Blood upon the weakned parts; and so the Violence of the Malady is increased. Besides, in Dropsies they being always thirsty, the quantity of Fluid taken in is so disproportionat to what is carried off, because they always make water but in small quantities in proportion to what they drink, that it's no marvel their Blood is over thin. I have frequently in Dropsies known people drink three Quarts in a day, when they have not pissed a Pint, nay not four Ounces. And that Acids should occasion the Thirst attending Hydropical people, is ridiculous to imagin, when they are the only things that will quench Thirst. Besides, do but consider the nature of the Medicins that are most effectual to bring the Blood to a consistence when it is over thin; I have scarcely ever met with any
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thing equal to *Chalibears*, and that *Steel* is an Acid I have elsewhere indeavored to prove: And as a farther proof of it I shall produce the Testimony of *Beckerus* (no contemptible man) in his *Minera Arenaria*, pag. 88. *Non recensebo jam qualiter ille spiritus esurinus in aquis subterraneis latitans, varia sibi Salium, Aluminum, Vitriolorum, Sulphurum, Realgarium mineralium compositionum species producat; nec demonstrabo, quâ ratione supra terram in Aeris regione tractus quidam hujus Acidi spiritus de uno Polo ad alterum, & perillum acus Magnetica feratur. Hoc tantum hic loci allegabo, omne Acidum substantiæ martialis esse, in quocunque oleo, pinguedine, fuligine, limo, silice & arena; imo etiam ipsa flamma reperibile, ac ad oculum demonstrari posse: quacunque ergo nature Acida & martialis sunt, illa potestatem habent Alkali tanquam substantiam metallorum mercurialem alterandi & transmutandi.* Now if this Thinness of the Blood may be taken off, and the Blood brought to its due consistence by means of Acids, 'tis not reasonable to suppose Acids the cause of its fusion. But then I confess here lies a great Difficulty, viz. how is it possible for Acids to make the Blood thin when 'tis too thick and viscous, and to bring it to a due consistence when it is over fluid? To which I answer, That should I pretend to give an account what Acids taken in the proper latitude would do, I should be guilty of the greatest Arrogance imaginable; for that
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would be to pretend to as much Knowledge as *Solomon* had, who knew the Virtues of Plants from the Cedar of *Lebanon* to the Hyssop that grows on the Wall. And Divine Providence had determin'd him to be the wisest of Men that ever* should be. All Plants from the greatest to the smallest are principally composed of Acido-sulphureous Particles; for what comparison is there between the small quantity of fixt Alkaly found in the Ashes after burning, and of volatil Alkaly in the Soot, in relation to the great quantity of Acido-sulphureous matter spent in Flame? Or to come nearer to the matter; let a Pound of any Vegetable, which affords the greatest quantity of fixt Alkaly, viz. *Broom*, or any such Plant, be sufficiently dried, so that the superfluous Humidity may be evaporated; after that, let it be committed to distillation *per se*, and it will afford between two and three Ounces of an Acid Spirit, with a good quantity of Oil, when all the Art of Man is not able to procure from the *Caput Mortuum* above two Drams of fixt Alkaly; yet, as before observed, *Broom* is one of those Plants that affords the largest quantity of fixt Alkaly. Now the Acid Spirit and Oil are those Substances, which in burning serve to supply the Flame: and from the *Caput Mortuum*, unless it be afterwards burnt, there is no fixt Alkaly to be obtain'd.

But here again, to obviate the Objection before taken notice of, viz. That Fire may produce

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duce new Substances not existent in Bodies before; or, for instance, the fixt Alkaly to be produced out of the Ashes of the *Caput mortuum* of the Broom, is only the Product of the Fire: If this were so, then the Ashes after all the Salt is once extracted, being again committed to a violent Fire, must produce more Salt; whereas on the contrary let it be committed to the Fire in the most violent degree of heat, and continued there as long as you will, it will never after afford the least quantity of Salt of any kind.

But that I may return to answer the former Objection, *viz.* how Acids are capable of making the Blood thin when over viscous, and of reducing it to its consistency when it is over thin. All the Bodies in Nature are differently specified by the all-wise Author of Nature, and at the same time are all animated by one universal Acid Spirit, which the Antients were wont to call *the Soul of the World*, and I think not improperly. Now the more any Bodies are impregnated with this universal Acid Spirit, and its beloved Sister Sulphur, the more perfect they are; and Gold, which is one of the most perfect and durable Bodies in Nature, seems to be composed of nothing but a pure *Acidum* and Sulphur, as I think has bin sufficiently made appear by some of the most strict Inquirers into Nature's Secrets. [One instance of which I shall here produce, *viz.* that all the fulminat-

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ing Compositions we know of are composed of *Acidum*, *Sulphur*, and a due proportion of Alkaly: Now *Aurum fulminans* being the most extraordinary fulminating Substance to be met with, is only Gold dissolv'd in an Acid, and precipitated with an Alkaly; so that the Gold must supply the room of a Sulphur at least; and without a Sulphur, no man that ever I yet heard of, did pretend to make any sort of fulminating Powder: and one Grain of this fulminating Gold here taken notice of, will do more than a hundred of any fulminating Powder besides. And the other Ingredients being the same that are used in composing the common fulminating Pouders, and this so much out-doing them, is, I think, a plain Argument that Gold is a Sulphur, nay the most extraordinary one in Nature.] Now the more perfect any Bodies are, the more *Acidum* and *Sulphur* they contain, and afford the least quantity of Excrement, viz. Alkaly, which is the only Destroyer of all Bodies, and brings them to a state of Putrefaction and Corruption.

Well, but some will say, what's this to the answering of the Objection twice started? Why it's only to make my way clear: But I shall now apply my self to it. There are two general sorts of Acids, viz. *manifest* and *invelop'd* ones: the manifest ones are such as immediatly appear to the Taste; and these, tho originally the same, and proceeding from
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the same universal Fountain, yet have different Operations upon Human Bodies. The involop'd ones are such as are not immediatly perceiv'd by the Taste, but by taking the Bodies afunder appear to be such. There is an Axiom, that *Unumquodque in id dissolvitur unde compactum est*: Every thing is dissolved into that of which it is made. Now if this Axiom be true, as I think it is infallible, a man may reasonably conclude that those Bodies, which upon their dissolution are reduced into Acid Substances, are Acids, tho before their dissolution they did not appear to be so. Most Vegetables upon their dissolution, or being analyz'd by the Fire, appear principally to be composed of Acid Substances; and therefore I think are to be accounted Acids, tho they are so differently speciflicated, and have such different Operations upon Human Bodies, that a Man who has not nicely examin'd them, would be tempted to believe their original constituent Parts much more different than they are. Now the more perfect and durable any Vegetable is, the greater quantity of *Acidum* and *Sulphur* it affords, and less of excrementitious Alkaly. And from the different Combinations of the two Sisters *Acidum* and *Sulphur*, I believe it possible to give a very probable Account of all the differences in Plants, as to *Color*, *Tast*, &c. And as these two perfect (if it may be lawful to call any natural thing perfect) Principles are more or

lets clog'd with excrementitious Alkaly, so they are more or less durable as to themselves, and friendly to Human Bodies, for whose use they were chiefly created. Therefore you see, when I preach up Acids, it is not only *Vinegar, Lemons, Oil of Vitriol, Oil of Sulphur, &c.* that I recommend, but all the perfect parts of the Creation, and that I decry the use of such things as are the Principles of Death and Destruction in Bodies, viz. *Alkalies*. From what I have said I think I may without presumption reckon *Oak-Bark* among the number of Acids; and yet being given in Substance, or a Decoction of it, it is so far from making the Juices over fluid or thin, that it will reduce them to a Consistence, when they are so. The same may be said of *Bistort, Tormentil*, and abundance of things of that Tribe: the same thing will *Comfrey Roots* do, and all the things of that Tribe; the same I could say of many more, but I have not room to expatiate. *Asparagus, Parsly, &c.* will make the Juices fluid when they are over thick and viscous, and so will a multitude of things more of that Tribe. I could lanch out into the Mineral Kingdom, but the different Operations of 'em are so well known, that I think it needless to take any particular notice of 'em: yet this much I will say, tho foren to my present Design, that after having made all the Inquiry into the Nature of Metals of which Human Industry is capable, I am well satisfied they differ only in degrees

degrees of Purity; and therefore for ought I know the business of *Transmutation* is not so ridiculous a thing as some would make it. As to those Acids that are manifestly so, they greatly differ in their Operations upon Human Bodies. I have before observed that there are those which may properly be called *Acido-sulphurea*, and others *Sulphureo-acida*: but in Nature I don't know a simple Acid or a simple Sulphur, there being such an indestructible Bond of Union and Friendship between them, that they are never one without the other. Now those Acids that have most Sulphur united with them are *Aperitives*, Openers of Obstructions, and keep the Blood and Juices in a proper state of Fluidity: Those that have little Sulphur mix'd with them are *Stiptics*, and bring the Blood and Juices to a consistence when they are over fluid. What I have said upon this Subject is not the effect of Fancy, but of a Series of several Years strict and nice Observations.

Letter. ' Besides, if Alkalies did always offend and cause Pain, it must follow that Acids must give ease: But I assure you I have often experienced the contrary; for upon the exhibition of *Rhenish*, *White-Wine*, and other Acids, I have found the Pains immediatly exasperated, and many times it has bin a long while e'er they went off.

Answer. If Alkalies cause Pain, I agree with you, that Acids of consequence must give ease; but I don't suppose an ill habit of Body that has bin some months or years a contracting, is to be alter'd with a few Doses of the most exalted Medicin in the World, let it be Acid, or what you please. Yet supposing Acids the most proper Medicins to ease Pain, as I believe they are; it is not improbable, but upon the giving a small quantity of Acid when there is a large quantity of Alkaly lodg'd upon any part so as to cause Pain, it may only in part dissolve the Alkaly, which was before more fixt, and by accident exasperat the Pain; wheras by continuing the use of the Acid, the Alkaly would be perfectly dissolv'd and extirpated, and the Pain altogether vanish. But Pain being somtimes exasperated upon the first giving of Acids in too small quantities, has, I doubt not, bin one great cause of deterring people from proceeding in the use of 'em, and also of attributing to them the cause of Pain. But in great Pains it is my constant practice to apply Acids externally to the Part affected, as well as inwardly; and there are but few Pains, especially Gouty and Rheumatic ones, that I am not able to overcome in a small time. And for the Pain you say you have often found to be excited upon giving *Rhenish* and *White-wine*, I have assign'd a reason for thar, if they are drunk in too large quantities, both

in my *Essay of Alkaly and Acid*, and in my *Treat of the Gout*; and therefore shall not repeat it, but refer you thither.

Letter. 'Again, if the Gout procedes from
'an Alkaly, what is the reason you use so
'much *Sassafras* in its Cure? Is *Sassafras* an
'Acid, and so proper to subdue this Al-
'kaly?

Answer. I can cure the Gout, if there were
no such thing as *Sassafras*; which I only use
in Apozems, as a proper Vehicle to dilute o-
ther Medicins in the Stomach. But however,
Sassafras is no contemptible Medicin; and
should you give your self the trouble of distil-
ling a Pound or two of it in a Retort *per se*,
if you afterwards reckon it among the num-
ber of Alkalies, I am mistaken; and if so, I
shall willingly own it.

Letter. 'I have only a word or two to speak
'concerning the green Color of Syrup of Vio-
'lets, and so I have done. I believe it may be
'turned green without an Alkaly: On the
'exhibition of it to Infants it comes away
'green very often, and brings away a great
'deal of green Matter by stool; and yet I
'believe they do not abound with Alkalies.

Answer. I own that upon the exhibition of
Syrup of Violets to Infants it will often occa-

sion green Stools: But whence dos that procede, but from its mixture with the Bile in the small Guts? and that the *Bile* is an Alkaly I know no man that doubts.

Letter. ' You may read in a late Author of 'undoubted Credit, that upon an Infant's 'swallowing a Dose of testaceous Pouder, an 'extraordinary Ferment was raised in the Stomach of the Child: Now how could this 'Ferment be raised, if it had not an Acid to 'work upon? Besides, dos not Experience 'shew that nothing is so proper in Infants 'Distempers as Alkalies?

Answer. The Author you speak of is my singular good Friend, for whom I have a very great Value and Esteem; and as to the Truth of the Relation you mention, I readily assent to it: But if you have read the *Appendix* to my *Essay of Alkaly and Acid*, you cannot but remember that I there acknowledge Acids may sometimes abound in the Stomach, and cause a Disorder, but in no other part of the Body; which thing I have so fully handled, that should I recite what I have there said, my Enemies would accuse me of Tautology, and therefore thither I shall refer you: and if what I have there said be not sufficient, I shall endeavor to give you what further Satisfaction I can. As for the Cure of Infants Diseases, I don't see but they require the same Methods

as are taken with grown People, only the Medicins given must be more mild and gentle, and in less quantities, considering the great Tenderness of their Natures.

Letter. 'I have some more things to offer; but I desire you would be pleas'd to satisfy me as to these. I should be glad to close with your Opinion, and imbrace any thing that is new; for I believe *Medicin*, tho it has met with great Improvements of late, to be capable of far greater. I'll give you no farther trouble, only after thanks to you for your indefatigable Labor in searching out the Truth of things, subscribe

Your humble Servant,

F. T.

Answer. I have indeavored to give you what satisfaction I am able as to the Objections you have already rais'd, and shall think no labor too much to answer any farther Objections. I desire no man to consent to any thing that comes from me, without examining it in the Balances of Reason and Experience; and if after such Examination, you find what I have advanc'd to be Truth, I don't doubt but to find you a zealous Champion in my Cause: But if otherwise, I desire you will
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convince me of my Errors, and I shall be very ready to make a Recantation. As for the Improvements made of late, they have principally belong'd to *Anatomy*, and indeed they have bin very considerable; and of all the Physicians of *Europe*, those of our own Nation have had the greatest hand in them. But for the Improvements in the practical part of *Physic* (setting aside the Discovery of the use of the *Peruvian Bark* in the cure of Agues) they are very inconsiderable: The most that has bin done of that kind, was by the indefatigably industrious Dr. *Sydenham*, and I heartily wish we had more Dr. *Sydenhams* at this day.

Sir, there are abundance of Imperfections that you will meet with; but if you did but know the great hurry I have bin in, and how little time I have had to sit composedly in my Study, you would readily pardon a great many of them: Yet this I can assure you, that had I not had an earnest desire to serve you with some other such Candid, Ingenuous Persons, I would not have lost so many hours sleep (having little other time to command) as I have bin forc'd to do, to put things in that order they are: At present I have nothing more to add, but that I am

Yours to Command,

JOHN COLBATCH

The

The CASE of
EDMUND TURNER Esq.

ON Monday *Aug. 30.* about twelve a Clock at night, *Madam Turner* came and told me that *Mr. Turner* was very ill at my Lord *Wharton's* at *Winchington*, and desired me, that I would immediately get my self ready, and go down to take care of him ; which accordingly I did, and got to *Winchington* the next day by one a Clock. When I came, I found *Dr. Fry* of *Oxford* had bin there some time, and was then at Dinner ; so I went up to *Mr. Turner* to inform my self as nicely as I could of his Case ; after which I came down to Dinner, which being over, I desir'd the Doctor we might consult what was proper to be done for the distressed Gentleman. But before I take notice of what passed between us, I shall exactly relate the Case, with the occasion of his Illness.

On the Saturday night before, *Mr. Turner*, with two other Gentlemen, sat down to drink, and continued at it till seven or eight next morning (tho I cannot learn that the Quantities they drank were extraordinary) at which time they all went to bed : the other two Gentlemen lay in bed the whole day, and ate nothing

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nothing but Water-gruel; but Mr. *Turner* got up in the Afternoon, and ate boil'd Mutton, with a great deal of strong Broth with Mush-rooms in it, and drank plentifully both of Wine and prodigious strong Beer, and then went to bed again, and presently fell asleep; but early next morning he awaked in the most dreadful condition imaginable. When I came to him, his Circumstances were as follow.

He had a violent Pleurisy, and *Peripneumony* upon him, as was plainly to be perceived by a most sharp Pain in his left side, of which he greatly complained, and a prodigious Shortness of Breath. He also complained of a great *Nausea* and Sickness at his Stomach, and had a very high Fever, with a great Stupor and Dulness in his Head.

Dr. *Fry* had, some hours before I came, sent a Prescription to Mr. *Williams* an Apothecary at *Ailsbury*, of which I have here inserted an exact Copy.

For Mr. *Turner*, August 31. 1697.

℞ *Ol. sem. Lin. rec. (sine igne) extract.*
 ℥b *semis.*

Sig. The Oil.

℞ *Syr. Balsam. Tolat. unc. quatuor.*
 Sig. the Balsamic Syrup.

℞

℞ *Antimonii Diaphoret. Corallii Rub. pp. Margarit. pp. ana dracm. duas. M. f. pul. in Chart. 12 equal. reponend.*

Sig. the Pearl Pouders.

℞. *Aq. Hyssopi, Cichorei, ana unc. sex; Limacum mag. Lumbricor. mag. ana unc. unam sem. Cinnamom. Hord. unc. unam; Syr. Capillor. Ven. Violar. ana dracm. sex. M. f. Julap.*

Sig. the Julap.

℞ *Emp. de Cicut. cum Ammon. unc. duas;*

℞ *Sem. Cumin. pul. unc. semis.*

Dr. Fry.

He had also, about an hour before I came, taken away about seven Ounces of Blood, the same quantity having bin taken away (as I am informed) the day before by order of Dr. Wilson, a Physician of the Neighborhood. I told Dr. Fry I could not in conscience agree to the use of the Medicins he prescrib'd. The Nausea at his Stomach was so great, that I fear'd the Linseed Oil would increase it to such a degree as would be of ill consequence; and for the testaceous Pouders, &c. they would excite the Hurry and Disorder in his Blood to a greater degree, and increase the In-

Inflammation of his Lungs, and I fear'd inevitably ruin him. He askt me what Method I would propose? To which I replied, that in my opinion, according to the laudable Custom of the great Dr. Cole, he ought to lose at least twenty Ounces of Blood more, which would empty the Vessels, and make room for the Blood to circulat thro the Lungs: That at due Intervals he should take a moderate quantity of *Tartarum Vitriolatum* and *Crimor Tartari*, in a spoonful of Syrup of Vinegar, drinking afterwards a large Draught of Pectoral Decoction, which would take off the *Nausea* at his Stomach, and promote Expectoration, and perhaps gently carry off the undigested Matter, which lay in his Stomach, by Stool: That he should be allow'd moderately cooling Liquors as oft as he desir'd them, in every Draught of which he might take about ten drops of dulcified Spirit of Nitre, which might help to take off the Inflammation of his Lungs, and calm his Blood: That he should take a Spoonful of a mixture of Pectoral Syrups often, in which was contain'd a convenient quantity of *Oximet* of *Squills*, which greatly promotes Expectoration. To take off the Stupor and Dulness in his Head, I proposed a Cataplasim of Mustard, Horse-Radish Roots, Rue, and Castor, to be applied to the Bottoms of his Feet.

To none of these things would the Doctor comply, neither could I comply with his Methods;

Methods; so after many long Debates, we at last agreed to go up separatly to *Mr. Turner*, and acquaint him, that we could not agree, and that he must discharge one of us. *Dr. Fry* went first, and when he came down I went up; but for fear that things might be misrepresented, I would not go up, unless *Mr. Wats* (a man eminently known in this City) would go with me to hear what I said. *Mr. Wats* was at first unwilling, but at last consented. When I came up to *Mr. Turner*, I told him *Dr. Fry* and I could not agree, and therefore one of us must be discharged. I likewise told him I had sufficient reason to believe the Method I had proposed for him might retrieve him, but that *Dr. Fry* was more positive as to the success of his than I would be of any Method I could use in a much less dangerous Case than his, and therefore I thought it his most prudent Method to continue him: To which he made me no Answer, but desired me to go down again, and see if we could not find a Method of Reconciliation, or words to that purpose. Upon which I went down, and told the Doctor what he said. After a farther Debate, without any compliance on either side, we agreed to get *Mr. Wats* to go up and know who must be discharged: when *Mr. Wats* came down, he brought us word that *Mr. Turner* desired to speak with us both together; accordingly we went up, and when he saw us he desired we would not stand upon any

any little Punctilios, and beg'd of us to give him a Vomit, because after a Surfeit he was wont to take one, and it always reliev'd him. I readily consented to it, and propos'd *Oximet* of *Squills*, with large quantities of Posset-drink (as Mr. *Wats* may well remember) and if that did not work, to excite it with Salt of *Vitriol*: But to this neither would Dr. *Fry* agree, but closely urged the use of the Medicins he had prescribed, upon which Mr. *Turner* assented to take them. I staid all that Afternoon and the Night following, but had no hand in any thing that was done. I went up with Dr. *Fry* about six a Clock to see how he did, when his Pulse seem'd to be somewhat mended, it having bin extremely bad before. About ten (just before I went to bed) I went up again with the Doctor to see how he was, but then I found a most lamentable Pulse, there being nothing but a little trembling Motion to be felt; upon which I desired the Doctor to walk out of the Room a little, when I told him that things lookt very ill, for that his Fever was extremely high, his Breath very short, and his Pulse as before related, and that if he did not mend that Pulse, he would drop his Patient. His answer was, that all was well enough: upon which I had nothing more to say, he not being my Patient. Next morning about seven a Clock I went again to see him, and found him much after the same manner he had bin the Night before, but the Doctor
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told me he hop'd all would be well ; so I went to Breakfast ; and while I was at Breakfast, I told one of my Lord *Wharton's* Servants (to the best of my remembrance it was the Butler) what my apprehensions of Mr. *Turner* were, and that I saw no hopes of his Recovery. But Mr. *Turner* being solely under Dr. *Fry's* Care, I did not think fit to stay any longer to neglect my Patients in *London*, and do him no other service than to go up now and then, and look at him : so away I came without taking my leave of him ; but before I went, I desir'd the forementioned Servant, if Mr. *Turner* should inquire after me, and know I was gon, to acquaint him that I was unwilling to take my leave for fear of disturbing him. Of all that passed between the Servant and me, Mr. *Turner's* own Son was a Witness, and was much concern'd that his Father was not under my Care. As I was coming home, about six miles on this side *Ailsbury* I met Col. *Cornwel* going to see Mr. *Turner*, who sent his Man to me to inquire how he was. I made answer, that I hop'd he was somewhat better, fearing if I had told him my real Sentiments, he would have pressed me to go back with him ; and as things stood, I did not care to return. By that time I had come about six miles farther, I met Madam *Turner*, to whom when she askt me how Mr. *Turner* did, upon the same considerations I made the same reply I had done to Col. *Cornwel*. After I was gon,

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Dr,

Dr. Fry prescribed more Linseed Oil, and a Pearl Cordial.

About eight a Clock at Night, being Wednesday, I came home, and after I had made two or three Visits, and eat my Supper, I went to bed. I had not bin in bed half an hour, before Col. *Cornwel's* Man knockt at the door, and desir'd to speak with me; he told me Mr. *Turner* was much worse than when I left him, that Dr. *Fry* was discharg'd, and he beg'd me to come down again to him; for that he would take nothing more from any one, but what I should direct. Upon which I got a Calash and four Horses as soon as I could, and went down again. I came to *Winchington* on Thursday about twelve a Clock, and found the poor Gentleman in the most profuse Sweat imaginable, his Breath short to the last degree, and almost no Pulse at all: But the Pain in his Side was gon, which his Lady (who was then with him) and those about him took for a good Sign. But I told them that his Shortness of Breath continuing, and his Pulse being so very low, it was rather a bad one, and that he was in a most deplorable condition; and I appeal to every one of my Lord *Wharton's* Family, who askt me how he did, whether I once gave them the least Incouragement to believe he would recover. The Shirt he had on him was as wet as if dipt in a River, and as cold as Ice, and so were both the Sheets; therefore the first thing I did
was

was to free him from this cold wet Linen ; in order to which I got as large a Fire made in the next Room as the Chimny would bear ; I then set a Shirt and a pair of Sheets that had bin before used, to be well air'd and heated : in the mean time his Lady and her Maid with hot Napkins rubb'd him, and made him as dry as they could ; after which with all the Caution imaginable, we put on a hot dry Shirt, and took away the cold wet Sheets, and put those that we had well heated and air'd in their room. This matter, just as I have related it, I can have sufficiently attested, tho it be positively said about Town, that I took him out of the Sweat, and put him on clean Linen without airing it at all. He being prodigiously thirsty, begg'd me to give him something that might allay it ; upon which I ordered 'em to make him a Mixture of four parts small Beer, one part White-wine, and some Juice of Lemons to make it grateful, and to sweeten it with Loaf-sugar ; and he being a great lover of Nutmeg, desired a little of it might be grated into it, which, considering the Stupidness in his Head, I agreed to. Of this Liquor I allowed him to drink as plentifully as he pleased ; considering the Profuseness of the Sweats he had had, I durst not then venture to bleed him, tho his Fever was as violent as ever. But to the Apothecaries I prescribed as follows.

For Mr. Turner Sept. 2d, 1697.

℞ *Oximel. simp. unc. quatuor; Aq. Lactis*
unc. sex; Cinnamomi fort. dracm. sex.
M. f. Mixtura, cap. cochleare unum frequen-
ter.

℞ *Oximel. Squillit. unc. duas.*
Sig. Oximel of Squills.

℞ *Crem. Tart. unc. sem. Tart. Vitriolat.*
dracm. unam; Sach. alb. unc. sem. M.
f. pul. in sex chart. distrib. ex quibus cap. unam
tertiâ quâque horâ in cochlear. Syr. Aceti, super-
bibendo haust. Apozematis sequentis.

℞ *Fol. Hederae terrest. Flor. Hypericon,*
ana M. unum; Rad. Althea unc. duas;
Bals. Tolutani dracm. unam; Aq. Font. ℥ tres:
coquantur ad tertiae partis consumt. & coletur;
colatura adde Oximel. simp. unc. duas, Sp. Nitri
dul. gut. 30. M.

℞ *Sp. Nitri dul. dracm. duas.*
Sig. dulcified Spirit of Nitre.

I afterwards sent a second Prescription,
 which was as follows.

℞ *Sem. Psyllii, Cydoniorum, ana unc. sem.*
ponantur in Chart. separatim.

℞

R *Electuarii Lenitivi unc. duas, Crem. Tart.
unc. sem. M. f. Elect.*

This last Electuary was for Mr. *Turner's* Man, who had sat up several nights, and complain'd of a great inward Heat and Costiveness ; but however, because it was inserted in a Bill with Mr. *Turner's* Name to it, I thought it convenient to take notice of it ; tho it is no Poison, and if Mr. *Turner* had taken it himself, it would not have murder'd him.

The forementioned things, with Directions, were taken as ordered ; and as to those, for the use of which there was no Direction given, I shall here give an account how they were taken.

Once in about two hours I mixt half a Spoonful of the *Oximel* of *Squils* in a small quantity of the *Apozem*, and gave it him. Of the dulcified Spirit of Nitre I gave him ten drops in almost every Draught of Liqueur he drank. As for the *Flea-Bean* and Quince-seeds, I had one half of them boil'd in two Quarts of Water to the consumption of one half ; and of this mulaginous Decoction I now and then gave him a good Draught, it being a great promoter of Expectoration. In the House I got-made up a Lambative of fine Sallet Oil and Syrup of Vinegar, and of this I sometimes gave him a Spoonful. But all I could do avail'd nothing ; I could by no artifice make him expectorat in

any quantity, only sometimes he would discharge a green putrid Matter. He continued to be short-breath'd to extremity, his Fever no whit abated, his Pulse low and irregular, and sometimes would totally intermit for two or three seconds, with a Stupidness in his Head.

About nine a Clock he again broke out into a most profuse Sweat, which I did by no means like, at which time I laid me down upon a Field Bed that was in the Room to sleep, choosing rather to lie so than go to bed, that I might be the more ready to be called upon occasion; but having travelled near sixscore miles in three days, and bin two nights upon the Road, I was very sleepy. About eleven a Clock my Lord *Wharton* called Madam *Turner* in the next Room to consult about sending for Dr. *Babo*; she left his Man sitting upon the Bed by him, I being fast asleep upon the Field Bed.* While Madam *Tuaner* was in the next Room with my Lord *Wharton*, Mr. *Turner* in the midst of this profuse Sweat leaps out of the Bed, and walkt round it to the Closet without any thing but his Shirt upon him; Madam *Turner* hearing some body walk in the Room barefoot, run in to see what was the matter, and found him in this posture; she was immediatly followed by my Lord *Wharton* and some others: as soon as she came in, I awak'd, and got up to help him into the Bed. When he was put into Bed he laid himself

self in a Posture, out of which he never moved till he died, which was within a very few hours. Whether this last getting out of the Bed was a shortning of his Life, I cannot be positive, but it is very probable it might. It is to be observed that the Night before about eleven a Clock, he was in such extreme Agonies, that every body thought he would have died then, at which time his Nails turned bluish; but upon his recovering himself (which I believe was principally occasion'd by the sight of his Lady, who just then came into him) his Nails never recovered their Color, but continued bluish till he died. Now the Nails not returning to their Color was as fatal a Symptom as could be.

I am sorry I have bin forced to rake up the Ashes of the Dead; but I having so often bin charged with no less than the Murder of this Gentleman, I am forc'd to write the Case in my own vindication. I am sure it was as much my Interest to preserve Mr. *Turner* as any one Man in *England*, there not being one to whom I was more obliged than to him, who had done me many singular pieces of Service; and I am sure I would have gon as far, and done as much to have sav'd his Life, as any Man could have done for his Friend.

Before I conclude this Subject, I shall presume to take notice of a thing that happen'd, which was a kind of Preludium to his Death; and for ought I know the Thoughts of it might

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deject his Spirits, and have a fatal Influence upon him.

About *April* last *Mr. Gadbury* came to him, and told him, *Mr. Turner, you will die in the Country this Summer of a Surfeit of Drinking.* He receiv'd it with a Smile, and said, *I die with Drinking, who am the soberest Man in England! that's impossible.* In *May* he went to the *Bath*, but before he went he made his Will, and was observed to be more melancholy than usual. He came back from the *Bath* very well, and told some of his Friends that *Mr. Gadbury* was deceiv'd. Some time after he went to *Winchington*, and just as he was going, one of his Friends bid him remember what *Mr. Gadbury* had said, and beware of drinking: he said he would. As soon as he was taken ill (I suppose remembring *Mr. Gadbury's* Words) he told his Son that he should not recover.

[*Postscript.* • Whether *Mr. Gadbury* came to *Mr. Turner*, or *Mr. Turner* went to him in disguise, which is most likely, I am not certain; but that *Mr. Turner* told several of his Friends that what I have related past, between him and *Mr. Gadbury*; and that every part of the Relation as to that matter, is true, I can produce several persons of undoubted reputation to testify.]

CASE

C A S E II.

July the 11th I was sent for to Mr. *Davis*, a Gentleman of a very considerable Estate near *Lynn* in *Norfolk*, who then lodged at *Chelfey*. He had a little before the Small Pox, and after that a malignant Fever, having bin under the Care of another Physician, who treated him after the common Method with Alkalies and Alexipharmics: but his Case was now so deplorable, that his Friends despair'd of his Recovery; so the former Physician was discharged, and I was sent for: when I came to him, I found his Case as follows. He had a violent *Peripneumony*, or Inflammation of his Lungs, his Breath being constantly very short; but at some times he was so extraordinarily short-breath'd, that his Friends were afraid he would be strangled. He had a Fever upon him to a most intense degree, a great Stupor and Dulness in his Head, a *Nausea* at his Stomach, and his Pulse very low and irregular, with a great Depression and Lowness of his Spirits. I prescribed for him to Mr. *Baxter*, an Apothecary in *St. Martins-lane*, as follows.

For

For Esq; Davis, July the 11th 97.

℞ *Cremor. Tartari dracm. tres; Salis Prunella dracm. duas; Ol. Cinnamomi gut. duas; Conf. Cynosbati un. unam; Syr. è Rubro Idaeo q. s. f. Elect. cap. quant. nucis moscat. e large tertiâ quâque horâ, superbibendo haust. parvum Julap. sequentis.*

℞ *Aq. Cinnamomi Hord. Lactis Alex. ana unc. sex; Vini rub. Gal. unc. quatuor; Syr. è rubro Idaeo unc. tres; Ol. Sulphur. per camp. gut. xx. M. f. Julap.*

℞ *Syrup. Aceti unc. tres; de Rosis sic. unc. unam. M. f. Mixtura cap. cochleare unum in omni difficultate respirationis.*

℞ *Aq. Cinnamomi Hord. unc. quatuor; Mirabilis, unc. unam semis; Syr. Garioph. unc. semis; Conf. Alkermes scrup. duos. M. f. Card. cap. cochlearia quatuor vel quinque quando spiritus languent.*

Besides the forementioned things, I order'd him to eat Lemon and Sugar very often, and to drink Lemonade in as plentiful quantities as he pleased.

The next day I visited him again, and found him much after the same manner he was the day before, only his difficulty of breathing seem-

seemed to be somewhat abated ; the Water he made in the Night was of a perfect Lead Color, and his Pulse was very low and irregular, and would sometimes totally intermit. The Blackness of his Water, and Irregularity of his Pulse made me very doubtful of his Recovery. I then prescribed the following Medicins.

℞ *Conf. Flor. Calendula, Lujula, ana dracm. sex; Conf. Alkermes dracm. unam; Ol. Cinnamomi gut. tres; Ol. Sulphur. per Campan. gut. xv. Syr. Lujula q. s. f. Elect. cap. quant. nucis moscatae largæ quartâ quâque horâ, superbibendo haust. Julap. seq.*

℞ *Aq. Lactis Alex. Cinnam. Hord. ana unc. decem; Theriacalis unc. duas; Syr. Lujule unc. tres; Ol. Sulp. per Camp. gut. xv. M. f. Julap.*

℞ *Aq. Cinnamomi Hord. unc. sex; Mirabilis, Epidem. ana unc. unam; Syr. Garrioph. dracm. sex. M. f. Cardiacum, cap. cochlearia sex in languoribus.*

The 13th I visited him again ; his Pulse continued low and irregular, his Urin very black, his Fever nothing abated, but he began to expectorat a little, at which I was well pleased. In the Night he was taken with a Loosness, which considering his long Illness before, he was not well able to bear. I prescribed as follows.

℞

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℞ *Aq. Cinnamomi* Hord. Germ. *Querc. ana*
unc. quatuor; *Epidem. unc. tres*; *Mira-*
bilis unc. unam; *Theriacalis dracm. sex*; *Conf.*
de Hiacy. drac unam sem. *Syr. Garrioph. dracm.*
sex. *M. f. Julap. cap. cochlearia iv. vel v. fre-*
quenter.

℞ *Lupulor. man. unum*; *Passular. Corinth.*
Salis Marini, ana unc. quatuor; *Aceti*
acer. q. s. f. Cataplasma Carpis applicand.

℞ *Rad. Petasitidis unc. tres, Angelica Hif-*
pan. unc. sem. Fol. Ruta pug. duos;
Aq. Font. lib. duas; *Aceti acerrimi unc. sex.*
Infunde clausè & calidè in vase terreo vitreato
per horas iv. & coletur, cap. unc. iv. quartâ quâ-
que horâ.

The 14th I visited him again; his Loosness was quite stop'd, he spit prodigiously, upon which his Shortness of Breath was almost totally gon; his Fever was greatly abated, and his Pulse extremely mended, and his Urin of a good Color, and well digested. I prescribed as follows, and also order'd him to take liberally of his Mixture with Syrup of Vinegar to promote his Spitting.

℞ *Aq. Lactis Alex. Cinnamomi* Hord. *ana*
unc. decem; *Vini Rubri unc. sex*; *Syr. Lujula*
unc. tres; *Ol. Sulphuris gut. xvi.* *M. f. Julap.*
cap. haust. larg. ad libitum.

The

The 15th, 16th, and 17th, he continued to take the forementioned things, during which time he spit like one in a Salivation; but he continued very weak, and having something of his Fever lurking within him, the 18th I prescribed the following Medicins.

℞ Conf. Calendula, Lujula, ana unc. semis;
Conf. de Hiacyntho dracm. duas; Crem.
Tart. dracm. tres; Ol. Cinnamomi gut. duas;
Ol. Sulph. per Camp. gut. xv. Syr. Lujula q. s.
f. Elect. cap. quant. nucis Castan. tertiâ quâque
horâ, superbibendo haust. Apozematis sequentis.

℞ Rad. Eringii unc. duas; Aq. Hordei lib.
tres; coquatur ad tertia partis consum-
tionem, & coletur; colatura lib. unam sem. addé
Aq. Cinnamomi Hord. Vini Rubri, ana unc.
quatuor; Syr. Lujule unc. tres; Ol. Sulphur. per
Camp. gut. xx. M.

℞ Ol. Vitriol. dul. per digest. fact. dracm.
duas, cap. gut. octo in omni haust. potus.

He continued the use of these things, and in a weeks time his Fever was perfectly gon; he recovered Strength, and was wholly free from his Shortness of Breath, and all the other Symptoms he complain'd of. I then prescribed the following Purge, which was repeated two or three times at due distances, and
he

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he is now as hale and hearty a Man as any in
England.

*Rx Rezina Jalap. gr. decem; Antimonii
Diaphoret. gr. xii. Crem. Tart. scrup.
unum; Syr. Bals. q. s. f. Bolus, cap. primò manè
cum regimine.*

F I N I S.

A
RELATION

Of a very Sudden

AND

EXTRAORDINARY CURE
of a Person Bitten

BY A

VIPER,

By the Means of ACIDS.

Together with

Some REMARKS upon Dr. Tuthill's
Vindication of his Objections against the
DOCTRIN of ACIDS.

In which are contain'd several things in order
to the further clearing of the said Doctrin.

By JOHN COLBATCH, a Member
of the College of Physicians, London.

The Second Edition Enlarg'd.

L O N D O N,

Printed for D. Brown without Temple-Bar; A. Roper
in Fleet-street, and T. Leigh in St. Paul's Church-
yard. 1699.

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To the unknown
 Dr. *C O L B A T C H*,
 Upon his several
 Most Ingenious Tracts in P H Y S I C,
 Especially that of
 A L K A L I E S and A C I D S.

PHYSIC for Ages past has grop'd her way }
 In Paths of Darknes, without any Ray }
 Or certain Truth, and still was going astray : }
 When *Colbatch* rose, who with reviving Light
 Dispel'd the Clouds, and chas'd away the Night.
 By him th' important Secret is reveal'd,
 Thro Fraud and Ignorance so long conceal'd.
 No sordid hopes of Gain e'er sway'd his Mind,
 His only Aim's the Good of Human kind;
 Who first with Pains and Labor dug the Oar,
 Then freely gave us all the Golden Store.

Name,

Let Juggling *Quacks*, grown envious of thy
 Combine together to obscure thy Fame ;
 Such are the Myst'ries which thou dost unfold,
 They'l write thy Name in Characters of Gold :
 To Thee alone Mankind's indebted more,
 Than all the Doctors that have gon before.

J. C. junior.

T O T H E
R E A D E R.

I Have in all my Writings taken Truth for my Guide, which is the Soul of an Undertaking, and a Duty that ought to be stipulated by every Writer, both with God and Man ; and this I may say, I have not wanted courage to speak it, nor means to discern it.

The opposition I have met with has bin almost insupportable, Truth at its first appearance never wanting multitudes of Opposers ; but, thanks to God, the Eyes of the World begin to be open'd, and the new Doctrin I have advanced has gain'd so much ground, that few Authors in their own life time have scarce seen the like. This unwonted and unexpected Incouragement that I have met with, has fill'd me with such a sense of Gratitude, that at present I am not able to express it ; neither can I better manifest it, than by prosecuting the Work I have begun, with all the diligence and industry I am capable of, and this I oblige my self to do.

Reason is the true Touchstone by which we ought to examin every thing ; and according as any thing agrees or disagrees with it, we ought either to embrace or reject it. I remember that Prodigy of Nature, the Learned Mrs. Ann Baynard,

nard, did once in my hearing say, That Reason was that eternal Standard, which God Almighty, as a Ray of his own Image, has impressed on Man, to the election or dislike of what may hurt or succor him; and where this is rais'd and improv'd, it makes him an Angel, but where sunk and depress'd, a groveling Brute.

I do protest I never yet advanced any thing before I had weigh'd it in the Balance of the best Reason that God has given me; and lest Reason alone should deceive me, and thereby suffer me to impose upon the World, I have always join'd Experience to it; so that both being combined together, I could not well be deceived my self, nor lead others into error. And I am apt to believe, that if People would but lay aside their Prejudices, and consult their Reason, I should not have one Enemy. But to my no small grief, I have heard some Physicians of no ordinary reputation, positively declare, That Authority, and not Reason, was what they depended upon. Of these men I have little hopes; but since they won't hearken to my Reasons, let them but inquire into the success of my Practice; and if they find by the means of Acids I am able to cure those Distempers which are not to be cur'd by Alkalies, I hope it will at last cure them of their Scepticism.

From one Generation of Physicians to another it has constantly bin handed down, that the Gout was a Distemper not to be cur'd; and in spite of all the Noise the last Age has made about experi-

mental Philosophy, no man ever went out of the common Road to try the Truth or Falshood of this Position. But now it evidently appears that the Gout is not such a Fury, but may with ease be overcome by proper and powerful Acids; and there is scarce any part of England, but one or other can experimentally attest the truth of it. Now if it evidently appears that my Predecessors have bin notoriously ignorant as to the Cause and Cure of so common a Distemper, it is not unreasonable to believe they have bin so in other Cases, nay it is most certain they have: and there are many honest Gentlemen of the Faculty who are not ashamed to acknowlege it, and that not only in words, but by the alteration of their Method of Practice; tho there are another sort, who with good success have of late made use of Acids plentifully, and at the same time given me all manner of opprobrious Language: but I thank God I am out of their reach, and tho they persist in their ingratitude, I shall still endeavor to serve them to the utmost.

I know there are many who will read these Papers with no other design than to find faults: but the Barking of these Critics will never disturb me, because I have undertaken nothing but with a design to serve Mankind; and I doubt not, in spite of all the imperfections to be met with, there are many Candid, Ingenuous men, who will make as favorable a construction of this, as of my former Undertakings. And if such are pleased, I care not what the envious Critics say.

JOHN COLBATCH.

*A Relation of a very sudden
and extraordinary Cure of a
Person bitten by a Viper, by
the means of Acids.*

ON Saturday *March* the 26th, one *Mr. Stringer* a Chymist in *Villers-street York-buildings*, was seeing a Collection of Rarities that were expos'd to public view in *Stocksmarket*; among others there was a living *Viper* kept in a Glas of Bran. The person who shew'd the Collection, upon some inducement or other, took the *Viper* out of the Glas to shew *Mr. Stringer*; but handling him more rudely than he ought, inrag'd the *Viper*, and he bit him by the Finger; and from the place into which the Tooth entred, there issued forth a few drops of Blood: it was just above the upper joint of the fore Finger where the Tooth entred.

At first the man, whose name is *Philipson*, made nothing of it, but in a little time his Finger swel'd and pain'd him exceedingly; upon which, by some body's direction, a *Hot Iron* first, and afterwards *Venice Treacle* and *Oil of Vipers* were applied to the part; but the symptoms not abating, *Mr. Stringer* advis'd him to seek out for further help: he perceiving *Mr.*

Stringer had some knowlege of the matter, desir'd his assistance; upon which *Mr. Stringer* sent to *Mr. Francis Molt* a Chymist for some *Salt of Vipers*; but *Mr. Molt* not being at home, and that not being to be had, he sent to another place for some *dulcified Spirit of Niter*, a large quantity of which he gave him in *Claret*, and with the rest he embrocated his Finger and Hand, which at the present afforded him some relief, he being then in extreme Agonies, and had such a trembling in his Hand and Arm as is scarce conceivable. But in a little time the Symptoms returning, the dulcified Spirit of Niter not being powerful enough to overcome so subtil a Poison, *Mr. Stringer* again prest him to seek for further help: upon which he told *Mr. Stringer* he had a Brother in *Pal Mal*, an Apothecary, to whom he would apply for advice: so *Mr. Stringer* and he went to his Brother in a Coach.

- When he got there, the Symptoms were so aggravated, that his Brother was under great concern for him, and propos'd sending for *Dr. Sloan* and several others; but *Mr. Stringer* mentioning me, he readily assented to take my advice: upon which they got into the Coach, and drove to *Mr. Stringer's* House, by which time the man was grown so weak that he could scarce stand. After they had gotten him into a Room, they sent for me; but I not being at home, *Mr. Stringer* sent for *Mr. Alexander Small* a Surgeon in *New Round Court*,

Court, a young Man of great Honesty and Industry, and one whom I frequently employ.

Mr. *Small* having never seen any thing of the like nature before, was at a stand: he first thought of scarifying the Finger, but when he considered that the Tumor had extended it self even to his Shoulder, in which he had very acute Pains, and from the other Symptoms that attended him, concluding the Poison had dilated it self thro the whole mass of Blood, he altered his first resolution, and instead of scarification made use of the following method. Before I give an account of which, I shall take notice of his circumstances, as related to me by Mr. *Small*, Mr. *Stringer*, and Mr. *Philips* Apothecary, the man's Brother. His Hand and Arm, as above said, were extremely swell'd and inflam'd, and full of pain; but the pain in his Finger where the Bite was, and that in his Shoulder much exceeded the pain in other parts: he had a great Giddiness, and Faintness, insomuch that he could scarce sit without being held in the Chair; an extraordinary and violent Strangury also attended him, with cold sweats, and great disorders in his Stomach and Bowels, and his Countenance turn'd extremely yellow, and he stretch'd out, almost, as dead. Mr. *Small* and Mr. *Stringer* provided a good quantity of my *Elixir Vitrioli*, an account of which and its preparation may be met with in the last Edition of my *Essay of Alkaly and Acid*.

With this Elixir Mr. *Small* embrocated the Fingers, Hand and Wrist for near half an hour together, and two or three times in the said space he dipp'd the end of the bitten Finger in plain Oil of *Vitriol*: in the interim he gave him two or three Drams or more of the *Elixir Vitrioli* inwardly in a large quantity of water, when the man finding a great propensity to vomit, Mr. *Small* advised him to put his Finger in his Throat and help it forwards; after he had vomited plentifully, Mr. *Small* plied him afresh with the *Elixir Vitrioli* in water: the quantity he took after his vomiting Mr. *Small* guessees to be near, if not quite, half an ounce.

In less than half an hour after Mr. *Small* came to him, all the Symptoms, except the swelling of his Hand and Arm, which was sensibly lessen'd, were totally vanished, and he able to walk from *Tork-buildings* to the *Grecian Coffee-house* in *Essex-buildings*, to find me out for further directions in the Matter. Now the violence of the Symptoms being abated and gon, I prescrib'd him more temperat Acids than those he had before taken, and that had bin applied to the affected parts.

℞ *Fol. Rutæ contus. manip. duos; Rad. Angelicæ Hispan. pul. unc. duas; Micar. Panis albi unc. quatuor; Aceti acerrimi lib. duas: coquantur ad debitam consistentiam, cui adde Ol. Scorpion. unc. duas. M.f. Cataplasma.*

℞ *Elix. Vitrioli dracm. duas; Sp. Vini Rect. unc. duas. M. f. Mixtura.*

℞ *Fol. Rutæ manip. unum; Rad. Serpentaria Virgin. dracm. sex; Angel. Hispan. unc. unam; Petafitidis unc. unam semis; Vini albi, Aceti acerrimi, ana lib. unam. Infunde calidè per horam, & coletur.*

Sig. the Infusion.

℞ *Ol. Vitrioli dul. per digest. fact. unc. semis.*

Sig. Dulcified Oil of Vitriol.

I order'd the man to go to his Lodging, which was in *Black Friers*; and because his Brother could not get the foremention'd things ready under three or four hours, I advis'd him as soon as he came home, to take three ounces of Treacle Water, (in my opinion one of the best Medicins in the *London Dispensatory*) and as soon as he had taken it, to go to bed.

I order'd the *Cataplasm* should be applied warm to the Hand and Arm as far as the swelling reach'd every six hours; and before applying the *Cataplasm*, that the parts should be well embrocated with the Mixture.

Of the Infusion he took four Ounces every four hours.

When-

Whenever he was thirsty, I advised him to take twenty Drops of the dulcified Oil of Vitriol in a draught of White Wine and Water.

On Sunday morning about eleven a Clock I went to visit him, and when I came to his Lodgings, I found Dr. *Sloan* with him; the Doctor said the Method that had bin used was new, but that the Man was in a very good condition, and out of all danger. He had slept well the whole night, and was not in the least feverish, neither had he any disorder upon him, only a very small pain in his Finger, the swelling of his Hand and Arm being greatly abated.

I order'd the continuing of his former method, which I had no reason to vary. But Dr. *Sloan* propos'd, that if his Infusion should make him puke, as it once had done, then instead of it, he should at the same intervals take half a dram of *Virginian Snake-Root* in powder, drinking afterwards two or three ounces of Treacle-water, sweetned with Syrup of Gilliflowers; which I consented to, it no way thwarting the Methods before taken.

At night I visited him again, and found him as brisk and well as if nothing had ail'd him; the Infusion had not disagreed with him, and therefore he took not the Powder of *Snake-Root*: but I mix'd the Treacle-water and Syrup of Gilliflowers with the remaining part of the Infusion, and order'd him to take four ounces of it morning and evening only, so long as it lasted.

The

The next day I visited him again, when I found him up and eating his Dinner very heartily. I then order'd him to continue the use of the Cataplasim so long as he found the least swelling in any part, and then dismissed him from my care, there being not any need of my further attendance.

A small swelling of his Finger continued for some time after, but without trouble or pain.

I believe I may without vanity say, that considering the symptoms attending this man, which were as severe as possible, and that he surviv'd, there has not bin a more extraordinary Cure wrought; nor such Symptoms, raised upon the like occasion, ever taken off in so short a space.

Now did the poison of Vipers consist in a Volatil Acid, as some would make us believe, how is it conceivable that these dreadful Symptoms could be so soon taken off, by giving more Acids, and that in so extravagant a quantity as they were at first given by Mr. *Stringer* and Mr. *Small*? Nay, had the Poison bin an Acid, it is very reasonable to believe, that the more Acids they had given him, the more his Symptoms would have bin aggravated. Whereas, on the contrary, it plainly appears, that by the repeated large quantities they gave him, the Symptoms were so soon abated, that it is almost past belief.

I cannot but observe, that in the strange relation Dr. *Stubbs* gives of the severe Symptoms attending the man at *Warwick* that was bitten by an Adder, the only thing that sav'd his life, was the *Mixtura simplex* that was given him, which is a most noble Acid: but this man had not the *Mixtura simplex* given him in such quantities, or in any proportion to the Acids Mr. *Philipson* took; nor was his Cure so expeditious or so easy, as may be seen in Dr. *Stubbs's* Relation.

The hot Iron was as useless in this, as in that Case; and I am apt to believe never does any service at all, unless applied at the very instant the Bite is received.

Mr. *Philipson* suck'd his Finger as soon as he was bit, and to that a certain Physician attributes a great deal, and says it help'd to expedite the Cure. Whereas there are several Authors of undoubted credit, who have given Relations of persons that have died by so doing; and if this man had suck'd out any great quantity of the Poison with his mouth, how came the whole Hand and Arm to be immediately affected in so dreadful a manner?

Lemery in his *Course of Chymistry* does confess, that the *Viper* abounds more with volatile Alkalious Salts, than most other Creatures, and assigns a very good reason for it, *viz.* the extraordinary closeness of the cutaneous Pores, which makes them not perspire so freely as other Creatures. Nay he confesses, that their
Poison

Poison consists in the emission of a very great quantity of Volatil Salts, at the time of their being inrag'd or anger'd ; but then to square himself with the vulgar Opinion, he tells us, that these volatil Alkalious Salts are instantaneously, at the time of their emission, during the Vipers short rage, turned into Acids of the most volatil nature : This is such Jargon that nothing can be imagined like it. The transmutation of Merals (even to those who are the greatest enemies to it) is a mere jest to it.

If we look into *Moses Charras* his account of the *German* that was bit at his house, after all the pother he makes about his volatil Salt of Vipers, the Cure of that man was not perform'd without a great deal of hazard and trouble, and the intermixture of many other Medicins, besides that of the volatil Salt, even Acids, as Treacle-water, and slices of Citrons with Sugar ; but these Acids could not so effectually operat, as otherwise, it's probable, they would have done, because obtunded by the Volatil Salt so frequently given him. But *Hoffman* in his *Clavis Pharmaceut. Schroderi*, pag. 45, & 46. (as I have elsewhere observed) wholly attributes the Cure of this man to the Juice of Citrons, after all other things had proved ineffectual ; and ridicules *Charras* for feigning the Poison to be an Acid : For if this were so, says *Hoffman*, how could the Juice of Citrons, which is an Acid, afford the Patient any relief ?

I shall conclude this subject with one Observation, *viz.* That Physicians get more reputation by keeping their Patients a long time in hand, and in continual danger of their lives, than by quick and expeditious Cures. As for instance :

One Physician has a Patient sick of a Fever ; he takes such a method that his Patient lies a month in continual danger and hazard, but at last recovers and gets abroad : he then proclaims to all the Miraculousness of the Recovery, and the Danger he was in ; upon which inquiry is made who was the Physician ? he immediatly replies, the famous Doctor such a one ; and if he be a Person of any Note, the Physician's work is done.

Another Physician has a Patient with the very same Fever ; this Physician takes care to obviat all Symptoms, and his Patient is abroad in eight or ten days, and perhaps has never bin in the least hazard of his Life. He, instead of magnifying the skill of his Physician, tells his Friends, my Physician says I have had a Fever, such as my Neighbor such a one had, but I believe he is mistaken, mine could be no more than a Cold, which would have gon off had I done nothing at all ; and this is frequently the Reward that honest men meet with. And I doubt nor but the same reflections will be made upon Mr. *Philipson's* Cure, *viz.* that he would have bin well in the same time, had nothing at all bin done to him.

Several

Several Physicians have publicly said, that a prick with a Needle, or the point of a Lancet in some parts, would occasion as dreadful Symptoms as this man had. Supposing this true, I believe every body will allow that the taking off such Symptoms in so small a time, let the occasion of 'em be what it will, is not ordinarily seen; and Dr. G. with the prick of a Lancet only, was hurried away into another World, who yet was as likely to make the foremention'd Objection, to undervalue any thing done either by me, or upon the Basis of my Hypothesis, as any one now living.

I will not pretend to justify Mr. *Stringer's* conduct in many things; but he being greatly concern'd in the first and most material part of what was done for Mr. *Philipson* in order to his Cure, I could not in justice but make use of his Name as he deserv'd. But for Mr. *Small* the Surgeon, he is of an unblemish'd Reputation, and as hopeful a young Man as any of his Profession, whose Testimony alone is sufficient upon such an occasion; but the Testimonies of Mr. *Philipson* the Apothecary and the man himself being join'd to his, makes the matter of fact unquestionable.

REMARKS

REMARKS upon Dr. *Tutbill's*
Vindication of his Objections
against my Hypothesis.

Worthy Sir,

YOU are the only fair Antagonist I ever had to do with, and therefore I ought to treat you with all the tenderness and respect imaginable. You cannot but be sensible that I walk in an unbeaten Path; for which reason if now and then I am out of my way, I am the more excusable. It's true, some few other Physicians have heretofore used *Acids* in the cure of several Distempers; and the friendly correspondence I have had with some of them has bin of great use to me: but the assistance I have had from them as to the establishing of my Principles, has bin very inconsiderable. If I have made any false steps, none of them are obliged to answer for me; and if I have made any good ones (which I cannot forbear flattering my self that I have) it is owing to my own labor and industry; and tho I was not bred up at the University, yet I have taken as much true pains to inform my self in all the Parts of Physic, as perhaps any man ever did.

Let

Let an Hypothesis be laid down with all the caution and care in the World, and establish'd upon never so certain a Foundation, there will be still some room left for men to object; and he that will spend his time in answering all trifling Objections against a thing that is new, must lead but an uneasy life. Yet, Sir, I do not mention this in relation to you; what Objections you have rais'd have seeming weight in them, and therefore I have taken the trouble to clear my self of 'em as well as I can.

I no where tell you, that I have said all that may be said on behalf of my new Hypothesis, this requiring several years to perform. But I have already said so much, that I think I may boldly declare, 'tis the best and clearest Hypothesis in Physic now extant, and that upon the foundation of it a man may with greater certainty attempt the Cure of most Diseases, than upon any other yet made public.

The present business of my Profession, together with another Work I am engag'd in, viz. *A general Treatise of Fevers*, dos so take up my time, that I cannot make any large Remarks upon your further Objections; and were it not that I am willing to let the World see I have a greater esteem for you than for those Scoundrels that have hitherto appear'd in Print against me, for the present I should have bin silent. For I must assure you, I do not think my Hypothesis at all shaken by what you have

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now said, there being little or nothing more than was contain'd in your first Objections. However I shall transcribe your fresh Objections in the order I find 'em, and make my Remarks in the same manner.

Reply. If you please to compare the Alkaline Spirit that you extracted from the Consumptive Man's Blood, with that which the healthy Blood afforded, you'l find no great disproportion, especially if you consider the Caput mortuum of the sound Blood. For you say that it being broken into small Atoms, each Atom appear'd to be so many little Bodies of Fire in your Microscope. That there is not the least spark of Fire in the Blood, I shall endeavor to prove anon; wherefore 'tis not irrational to suppose that those lucid Atoms were of the Family of Salts: And if Salts, then Alkaline, according to the Rules of your own Hypothesis. But then (you reply) the Tabid Blood would have yielded much more Alkaly, had not the great quantity of luxuriant Alkaly bin thrown upon the Lungs. Methinks this looks a little strange: For if you remember, the Consumptive Person did sweat prodigiously. Now you make Sweat to be nothing but an excrementitious Alkaly. If this Alkaly then was carried off in such quantities, it could not well abound so much in the Lungs.

Remark. This Objection or Reply to my Answer is a tolerably good one, and not without some seeming weight; yet is what I can easily clear my self from. For,

First,

First, I have before taken notice of the small disproportion between the two peoples Blood, and have assign'd one very good reason for it ; but according to your wonted Candor, you have furnish'd me with a second, and that is the profuseness of the Sweats. Now if after these two great discharges of excrementitious Alkaly by sweating and spitting, the Blood at last abounds with any quantity of Alkaly more than that of a sound person, it is, I think, very reasonable to suppose, that the Blood's being at first overcharg'd with Alkaly was the cause of the Distemper ; and in many Consumptive Cases it is usual for the Patient to spit perfect Chalk, and that in great quantities. Now if the Blood were overcharged with Acids in Consumptions, the whole M^{ss} passing so frequently thro the Lungs, could not fail of being sweetned by this Chalky Alkaly. But on the contrary, I think it very plain, that the Tone of the Lungs being spoil'd, and the Blood abounding with Alkaly, a part of this superabundant Alkaly is thrown upon them, and causes all the havock that is made by this Tyrannical Distemper : and this being a Distemper of which most of my Predecessors have died, and I my self am apprehensive, has made me not a little inquisitive into its Nature and Cause.

Secondly, That you might load the Blood of the healthy person with more Alkaly than I take notice of, you pretend from my Hypo-

thesis, tho without reason, to assign the cause of the Lucidness of the Atoms of the *Caput mortuum*, from its abounding with Alkalious Salts. Now I can assure you, that the whole quantity of *Caput mortuum* which that Blood produced, would scarce afford one grain of Salt of any kind. But supposing it to contain only the fourth part of a grain of *Phosphorus*, this would diffuse it self thro the whole, and make it lucid. The *Phosphorus* is a true Animal Fire, and may be extracted from all Animal Substances; and if it did not exist in them, how could it be extracted from them? And that the *Phosphorus* is an Acidosulphureous Substance, is to be demonstrated without difficulty. And I have plainly told you, that the *Pabulum* of Animal Fires is a sulphureous Acid.

Your second and third Replies I shall not meddle with, because you either grant me what I have said, or else procede upon mere suppositions, of which I can take no notice.

But here you fall upon me again without that order I could wish, first with *Answer*, and then *First* and *Secondly* again, and so on. Of this I shall take no notice, but go on from your first Reply to the Second, Third and Fourth, &c. in their order, and mark the pages in the Margin.

Reply.

Reply. You say, That in page Pag. 6, 7, 8.
 the 67th of my Answer, I know not
 what to make of your warm Particles. And by
 way of Reply you say, you mean Alkalious Par-
 ticles, such as you believe the Blood abounds with
 in some Fevers, and in which you grant Acids
 are of use. But yet (say you) I cannot agree
 with your notion of Fevers.

A Fever (say you pag. 68.) proceeds from a
 Constipation of some of the Emunctories, so that
 the excrementitious Alkaly, which should be car-
 ried off by them, is detained in the Blood, which
 by breaking its Globules, &c. This Doctrin does
 not seem at all to correspond with your Practice.
 For Spirit of Vitriol, and other Acids which
 are very stiptic, the use of which you applaud in
 Fevers. should methinks constipate the Pores
 more closely; and then they being of a very
 fixing nature, should fetter or retain those ex-
 crementitious Alkalies. Again, if Fevers are
 occasion'd only by a detention of these Alkalies, it
 must follow, that whenever they have free vent,
 the Fever must abate. But the contrary has bin
 sometimes experienced, where the Patient has
 sweated very liberally, and yet died at last. If
 this will not serve the turn, I hope to make it
 appear anon, that Alkalies are not capable of
 breaking the Globules, and making such a bustle
 in the Blood. But I cannot but speak one word
 or two in their defence before I go any further.
 I am very apt to think, that in some Fevers, e-
 specially Pestilential and Malignant, the Spirits

are primarily affected, according to the Hypothesis of the Ingenious Dr. Morton, witness those Symptoms which attend the Nervosum Genus immediatly upon the first seizure. But you must not adist of this notion, from the soil which you must lodge in the Blood, and thence be communicated to the Spirits. Well, let it be so, I will not dispute it: the difficulty on your side will be great still. For tho I shall readily grant the Globules to be broken in the aforesaid Fevers; yet 'twill be a hard matter to convict Alkalies of those tragical disorders. For first, experience shews that nothing is more proper in those Cases Malignant (I shall adventure to use the term, notwithstanding it has bin so scouted of late) than Pul. e Chelis, Rad. Serpentar. nay, Sp. C. C. it self, given in a proper Vehicle. But secondly, nothing dos so readily dissolve the mass of Blood, or separat its Principles as Acids, which I shall prove by and by, when I come to speak something of Dropsies. But this long discourse of the heat of the Blood, dos naturally lead me to consider somewhat of its Flame.

Remark. I still affirm that Fevers in general procede from a constipation of the Emunctories. Now I mean by *Emunctories*, those parts which are only designed and provided by Nature for the separation of the Excrements from the Blood; and whenever they are so disordered as not to be able to perform that office, there must either a Fever, or some other great disorder follow. And that this Doctrin quadrats

drats with my Practice, is very plain. For whenever these Emunctories are over-relax'd, they cannot squeeze out the excrementitious Particles in sufficient quantities, and so they return back again into the Blood, and cause Fevers, or some other disorder; and of consequence Spirit of *Vitriol*, or some such kind of *Stiptic* is the only proper remedy to take off this disorder. But to knock this matter on the head, you say that in many Fevers the Patient sweats so much, that it has cost him his life. This I will readily grant you, but the Sweats you mean are certainly such as we call *colligative* ones; in which cases the Emunctories are so overmuch relax'd, that they cannot bear a congestion at all, and so there is no such thing as a secretion, but the Juices good and bad are all let out together; and unless they can be prevented by proper Stiptics, which will put Nature into her right course, the whole Fabric must soon be destroy'd. And it is also to be observed, that in such Fevers the heat does scarce exceed that of the natural temper, the Pulse being also exceeding low. In the latter part of this Reply you altogether go upon suppositions, without the least kind of demonstration, and so it is scarce worth taking notice: but however to manifest my respect, I shall go on with it. As for what you mean by the Spirits being primarily affected in Pestilential and Malignant Fevers (all deference had to the Worthy Dr. Morton) it is *Heathen*

Greek to me: For by my own experience (to use your terms) in such cases I have found the Blood so full of soil, that from thence I stick not to account for all the depression of Spirits, and other nervous Symptoms that attend those Fevers. And for a *Fever of the Spirits* purely, a very late Author has sufficiently exploded that matter. And in my own Practice, within the space of a twelve month; I have bin concern'd with three Persons (and thanks to God I have seen no more) that have had the true Pestilence or Plague; the Blood of all which I have seen, and indeed it has rather deserved the name of, *Soil* than *Blood*, they being such masses of Putrelaginous Substance, as no man could without horror behold; and (by Divine assistance) two of these persons I recover'd by the means of Acids, and believe I might have done the same by the third, had I bin call'd in time. As for what you speak of your Experience as to the efficacy of *Pulvis à Chelis*, and *Sp. C. C.* 'tis a mere trifle; for if ever any thing was done after the exhibition of them, Nature her self deserv'd the whole honor, nothing in the least being to be attributed to the Medicins, as may demonstrably be made appear, and to please you I shall endeavor to do. But by the way I beg of you not to rank the *Rad. Serpentina* with the *Pul. à Chelis* and *Sp. C. C.* for the *Rad. Serp.* belongs to me, it being a most notable sulphureous Acid envelop'd; and that it is so, I will be obliged to

to maintain. But to return. I do boldly assert, that in no Fevers I ever yet met with, either *benign* or *malign*, could I observe the Patient to be in the least sensible of any Acidity in the Stomach or Mouth, but generally those parts have bin clog'd with a Matter that looks so like *Alkaly*, that if it be not the very same, I am sure 'tis no kin to the *Crab-Tree*. Now suppose it to be *Alkaly*, as 'tis plain it is, what can the *Pul. & Chelis*, which is a fixt *Alkaly*, or the *Sp. C. C.* which is a volatil one, do to remove it? The *Pul. & Chelis*, or any Medicins of that Tribe, I mean of the *Testacea*, for want of an Acid to dissolve them, must lie upon the Stomach, and by clogging that, cannot fail of doing much mischief to the whole Body. As for *Sp. C. C.* or any Medicins of that kind, I see no reason for the exhibition of them, because it is clearly manifest, that the Blood of feverish People is always over-clog'd with particles of the same nature, *viz.* volatil Alkalious Salts. But instead of the *Testacea* and volatil Salts, if you use any of the following sort of Medicins, I am apt to believe your Practice in Malignant Fevers will be more successful than it has hitherto bin, *viz.* such as *Aq. Theriacalis* in large quantities, *Mixtura Simplex*. *Elix. Vitrioli N^o* an Infusion of *Virginian Snake-Root*, &c. in Vinegar, &c. but here I have not room to expatiate. By the use of these Medicins you may raise the Pulse, and fortify the deprav'd and paul'd Stomach,

Stomach, promote due and regular Secretions, and change the malignant colliquative symptomatic Sweats into benign and critical ones. But this is not a place for me to enlarge upon the method of the Cure of Fevers, that being reserv'd for a particular Tract by it self; which with other things I have promised, shall appear abroad as soon as possible.

As for what you here say in relation to Acids dissolving the Blood, I shall now take no notice of it, because you handle that matter more largely in another place.

Reply. *And here the Life of Man you take to be a Fire or Flame; and all we eat and drink, together with the Air we draw in, to be Fuel for this Flame. The chief Arguments you bring to confirm this Doctrin, are taken from the Excrements of this Flame and its Fuel. The Excrements are Alkalies, which are near of kin to Ashes, the Relicts of other Flames: And for its Pabulum, 'tis Acid and Sulphur, the common Pabulum of all Flames. Here I must confess you talk very ingeniously, and highly improve the Notions of that great Philosopher. But let us examin this Hypothesis a little. As for Alkalies, I confess they are of the same nature with Ashes and Soot: Yet it dos not follow, that because Alkalies are found in the Blood, there must be a Flame too. We extract Alkaly out of several Herbs: 'Tis true, the Herbs must be calcin'd first. But certainly the Salt was pre-existent in the Herb before the Calcination, or else the Fire pro-*

produc'd it *de novo*, which you will by no means admit. The Inference then is plain. I will not adventure to say any thing of Crabs-Claws, Oyster-Shells, &c. lest you should make them the Recrements of a vital Flame. Come we next to the Pabulum, and that is Acid and Sulphur. That Bodies in which Sulphur is predominant, are inflammable, no body questions: But that such in which Acid is the chief Ingredient should burn, looks like a Paradox. To instance in a few: Acer. Spirit of Vitriol. Suc. Limon. &c. are so far from promoting Flame, that they immediately quench it: And indeed I know but one Acid in Nature which is inflammable, and that is Niter. But then this Vital Flame is not of a nature with Culinary Flames. Answer, Since the Pabulum is the same, methinks the Flame should be so too. Again, tho you speak so much of this Vital Flame, yet you do not, as I remember, much care to fix the place of its existence. I suppose it must be in the Blood, if any where. Now 'tis very hard to suppose a Flame in that Body, of which no part is inflammable. If you open a Vein, and the Blood spouts out reeking hot on the Fire, it will immediately quench it. So that methinks, these Notions seem to be a little too finely spun. Acid and Sulphur do support human Life; Men live upon Coals, Brimstone, &c. in which there is store of Acid and Sulphur. That we cannot subsist without Air is evident: For tho there is no Fire in the Blood, there is Motion undoubtedly. Now the Nitro-aereal Particles

ticles give a fresh Fermentation (or Motion) to it, and free it from Coagulation. If you are not satisfied with this, consult the Ingenious Dr. Mayo. But then the Blood has heat and warmth; and these are the Properties of Fire. Answ. May they not be excited by its Motion? No (you reply) we are much warmer in Bed when we use no Exercise, than when we are up and in Motion. Answ. The Body indeed is in no motion there; but the Blood is in greater than when we are out of our Beds; and 'tis impossible it should be otherwise. For do not the Bed-clothes protect us from the Coldness of the ambient Air? And are not a great many of the Volatil Alkalies detain'd by them, which reflecting upon the Body, warm it, and accelerat the Motion of the Blood? But after all, if we move violently when out of our Beds, we are much warmer than when in them. You are pleas'd to object, 'tis impossible mere Motion should cause any Heat in fluid Bodies. How so? Let a Man put Spirit. Corn. Cerv. and Spirit. Vitrioli together, and observe their Effects, they will soon grow warm. 'Tis evident, they do not stand still, but move very briskly before they are warm. And what is the Heat of these Bodies occasioned by, but their Fermentation or intestin Motion? Surely it cannot be by Accension.

Remark. That the Life of Man is a Flame, I think I have sufficiently demonstrated before, and shall here endeavor to make it somewhat more plain. The Phosphorus is to be obtained from

from all Animal Substances; and that it is a Fire is past dispute, it performing all those things that common Fire will, *viz.* inkindle inflammable Bodies, give heat and warmth to things near it, afford Light in the Dark, &c. and yet in many things differs from common Fire. Now if this Fire were not actually existent in Animal Bodies, how is it possible it should be extracted from them? Common Brimstone, Tallow, Pitch, &c. abound with Sulphur, and of consequence are inflammable; yet from none of these, by any Artifice now known, is there the least quantity of *Phosphorus*, or any thing like it to be obtain'd. The *Phosphorus* will not burn, without a free access of Air, any more than common Fire. But herein is a great difference between the *Phosphorus* and common Fire: Let any inflammable Body be never so well inkindled, and afterwards the Flame or inkindled part immerg'd in Water, it will instantaneously be extinguish'd, so as not to recover it self, tho expos'd to never so free an Air, without being again applied to some inkindled Body. Let a piece of *Phosphorus*, in a dark night, be plac'd upon a sheet of Paper, it will immediately of its own accord, afford a Light, heat your Fingers, and burn the Paper: this piece of *Phosphorus* put into water, will, in all appearance, be totally extinguish'd; yet tho it has lain in the Water for a whole year, upon being taken out, it will of it self burn, &c.

in

in the same manner as when put into the water. Upon stroking some Cats in the dark, multitudes of small flashes of Fire will follow ones hand, as I have frequently experienced: Now this gentle stroking can never cause so violent a Motion as you make Fire to be, and indeed is, unless it were actually existent in the Animal before. Tho I confess Fire to be a Substance constantly in motion, and that this motion is a very brisk one, yet all brisk motion is not a Fire, which from the *Cartesian Hypothesis* seems to be a necessary conclusion. But I can assure you, I know several Fluids, that the more briskly they are moved, the colder they are; as for instance, a River is always colder where there is a quick Current, than where the Water stands still: The Air is always more or less cold, as the Motion of it is greater or less; and I can assure you I have bin almost starv'd when forc'd to travel in high Winds in Winter, when the Air is most full of nitrous Particles, which you own to be inflammable: and behold here your *Nitrous Particles* in violent motion, and yet a man almost starved by them, nay several have actually bin so; so that you see they are not all kinds of violent motion, tho of Particles inclin'd to take Fire, that will cause a Flame. Thus 'tis clear I have sufficient reason to maintain my assertion, that mere Motion, tho never so much excited, will not occasion Heat in fluid Bodies, and that there is a difference in some respects

respects between the *Vital Flame* and common *Culinary Fire*, tho in many things they agree. I shall here again enumerat somethings where- in Animal Fire and Common Fire do agree and disagree. *Animal Fire* will not burn without a due access of Air, neither will *Common Fire*; Animal Fire causes Heat and Warmth, so dos Common Fire; Animal Fire cannot subsist without a constant supply of sulphureous acid Particles, neither can Common Fire without a supply of the same, &c. Animal Fire (for so I call the *Phosphorus*) being immerg'd in Water, and afterwards taken out again, will regain all its properties of Light, Heat, &c. without being applied to other in-kindled Bodies: This Common Fire will not do; for if once extinguish'd by immersion in Water, or otherwise, it cannot recover it self. I still assert, that such Bodies as are the proper *Pabulum* for Fire, are composed of Acid and Sulphur; but those that abound with most Sulphur, burn with the greatest violence; those that abound most with Acid, more slowly; and some Acid Substances that have little Sulphur in them, will scarce burn at all, especially if much diluted with Phlegm, such as *Vinegar*, *Juice of Lemons*, *Spirit of Vitriol*, &c. and therefore when the Heat of the Body is too intense, I give those Acids that are least impregnated with Sulphur, to abate the violence of the Flame; when the Heat is too remiss, I give sulphureous Acids to excite the

the Flame. You say you know but one Acid in Nature which is inflammable, and that is *Niter*: Now I assure you it is my opinion, nay I am very well able to demonstrat, that most, if not all pure Acids in Nature have their origin from the *Niter* of the Air; but pure *Niter* alone will scarce burn at all, unless mix'd with some kind of Sulphur. As for fixing a particular place for the existence of the Vital Flame, I thought there was no reason for it; but now I tell you, that I suppose it is diffused thro all the parts of the Body; and if by accident any part is destitute of it, a mortification insues. But then again you say, it is hard to conceive a Flame in that Body, of which no part is inflammable. Pray what think you of the *oily fat Particles* contained, not only in the Blood, but all other parts? are not they inflammable? The reason why we are warmer in Bed, and after violent exercise, is not to be attributed to any unknown Doctrin of Fermentation, but because we have a freer Perspiration at these times; and consequently the Flame must burn more freely. Your Comparison between the Heat of the Blood and that occasion'd by the mixture of Spirit of *Harts-horn* and Spirit of *Vitriol*, will not hold good; for in mixing those two Liquors, or in any kind of Fermentation, there is a very sensible commotion and hurry in all the parts of the said Liquors, whereas in the Blood of healthy Persons there is no such thing. I confess by the
impulse

impulse of the Heart it is driven progressively from the center to the extremities, to supply the necessities of the Parts ; but besides this progressive Motion, I know no other it has, all the Secretions being perform'd by proper Strainers, not from any Fermentation. Nay it is very easy for a man to perceive there is no such thing as a Fermentation in the Blood by the following plain Experiment, *viz.* Let a few ounces of Blood run out of the Veins or Arteries of a Man, or other Animal, into a very clear Glass Vessel, which you may put into a Sand Furnace, wherein the heat may be such as to keep the Blood in the same degree of warmth, as it came out of the Vessels; and if there be any such commotion to be seen with the best Light and best Eyes, as may be perceiv'd in those Liquors which are in a state of Fermentation, upon information I shall gladly own my mistake. There is, I confess, a Froth to be seen upon the surface of some Blood after it is let out into the Porringer, which looks like the surface of Liquors that are fermenting: But this Froth is so far from being the effect of Fermentation, that it procedes from nothing else but the different stream in which the Blood runs. For in the same Person, let one Parcel run out in a rapid stream, and it will occasion froth or bubbles; let another Parcel run out gently, and it will produce no such thing. Will not simple Water or any other Liquor do the same? But Blood being a

Liquor of a greater consistence, the Bubbles when raised will not so soon disappear, as in Water, or other Liquors that are more fluid; from which I hope it is plain, that the constant natural heat of the Blood does not proceed from Fermentation. And if the progressive Motion from the Heart to the Extremities gives it its heat, by the same reason, I think, the Water that runs from our Cocks should be warm also; whereas I dare be bold to say, that instead of gaining any heat by its rapid propulsion thro the Pipes, it is much colder than the Water in the River at the place whence it was received into the Engin. I had almost forgot to take notice of what you said concerning the *Production of Alkalies*; but it being a very material thing, I shall here expatiate a little upon what I have before said as to that Subject, and take all possible care to avoid repetitions. I have already own'd that Alkalies do actually exist in several Bodies as the principle of their death and destruction, but I never could yet hear of any one that has seen such a thing as either a volatil or fixt *Alkalizat Salt*, that was any other ways obtained out of Vegetable or Mineral Bodies, than from the Bodies after they were burnt, viz. out of the Ashes or Soot of them, which are their Excrements, or rather the Excrements of Fire; or else after the Body had undergon a Putrefaction, which is analogous to Fire. Now this being so in relation to Vegetables and
Mine-

Minerals, I think it may not be amiss to infer, that the Alkaly to be found in Animal Substances is the Excrement of their Fire; and that which mightily confirms me in this Notion is, that all the Excrements of Animals are Alkalious, *viz.* a Matter thrown away either as useleſs, or incommodious; and of conſequence all the Alkaly to be met with in the Blood or elſewhere, is an Excrement in a way of being carried off. I ſhall not ſay more upon this Head now, becauſe I may have occaſion to enlarge upon it, and upon the *Heat of the Blood*, in my Tract of *Fevers*. But what I have already ſaid is, I think, ſufficient to ſatisfy any one who is not a mere Sceptic. And for manifeſt Acids, they are to be met with every where almoſt, both in the Mineral and Vegetable Kingdoms, even in thoſe Bodies that never underwent a Putrefaction, but are in the greateſt ſtate of Perfection; and for *Vinegar* and the like, it is ſo far from being the effects of Putrefaction, that it is the laſt degree of Perfection to which Nature alone is capable of bringing thoſe Liquors. It is alſo to be obſerved, that thoſe Fruits of which Wine is made, were firſt Acid, before they came to a ſtate fit to make Wine; and that Putrefaction is the Cauſe of the Acidneſs of unripe Fruits, I believe none will aſſert. This Subject is alſo too long to handle fully in this place, and therefore I ſhall alſo omit the further proſecution of it for a Practical Diſcourſe.

Reply. *If Alkalies are the Original of Distempers, whence is it, that in Dropsies, Catarrhs, some Gouts, and other Diseases, we find the Texture of the Blood so thin? 'Tis observable, that those Particles you term Alkalies, the more the Blood is saturated with them, of the more thick Consistence it is, as we see in Pleurifies, Rheumatisms and other Inflammatory Cases (in which Distempers, if in any, the Alkalies abound) Is not then its Tenuity rather to be imputed to Acids? Do not Acids immediatly put the Blood in a Fusion, and render it thin? Your Answer to this is, that the Thinness of the Blood is not the only cause of these Distempers, but a destruction of the Tone of the Parts. Here methinks you do not argue so fairly. For you mention little or nothing of the destruction of the Tone of the Parts in your Etymologies of Distempers till now. And why may not I as well say, in Inflammatory Cases the Blood is not affected with any Alkaline Particles? These Inflammations only arise from a destruction of the Tone of the Parts; especially, if you consider what you asserted in your Notion of Fevers: For there the Emunctories are very much out of order. But you object, Since Acids will reduce the Blood to its due consistence, it is not reasonable to suppose they should be the cause of its Fusion. Answ. Whether Acids will restore the Consistence of the Blood, I shall examin by and by: I fear they will not. But this I am certain of, they will put it in a Fusion. 'Tis well known that your celebrated*

Oil

Oil of Vitriol taken alone, or tho in a Vehicle, if in too great a quantity, kills. Now how does it kill? Does it not by dissolving the Mass of Blood, by separating the Grumous Parts from the Serous, and breaking its Texture after the same manner as it does that of Milk? Sure I am, that Blood coagulated by the aforesaid Oil, does much more resemble Whey and Curds than Jelly of Harts-horn. Now then, what is all this but an extraordinary Fusion? And if a large Dose will make such mad work, and put the Blood into so great a fusion; certainly a less Dose must cause somewhat of a Fusion. And 'tis rational to believe that Oil of Vitriol is proper only in those Distempers where the Blood is too thick; very pernicious in such as have it too thin. And here I am glad you so opportunely give us your Sentiments of Dropsies. A Dropsy, say you, or the Thinness of Blood in that Disease proceeds not from Acids, but overmuch Drinking. Answ. That large Draughts (there being little Evacuation by Urin) render the Blood thinner, is obvious. But the Patient had no such desire for Drink, till the Distemper was actually upon him. So that the Question is, what first brought on the Distemper. Was it not a weakness of Blood, or want of due Consistence? I do not see how you can well deny it. But then you reply, Let it be so, 'tis impossible Acids should occasion this ill Habit of Blood. For, Hydropical People are thirsty, and 'tis ridiculous to imagine that Acids should excite Thirst, when they are the only things in the World that will quench it.

Answ. This I confess, at first sight, looks like
 an invincible Argument : But I must crave leave
 to weigh it a little. That Acids drunk or held
 in the Mouth, usually quench Thirst, is an unde-
 niable Truth: Tho' twill hardly hold good in all
 Cases. For, let a man drink Brine, which is
 very much impregnated with Acids, or eat high-
 season'd Meats ; I believe, tho he were a Stoic, he
 would immediatly grow thirsty. But common
 Salt is not an Acid of a right nature. Well,
 admit this. The most famous Acids that I know
 for suppressing Thirst, are Ol. Vitriol. Spirit.
 Vitriol. &c. Now I hope to make it appear, that
 these, or Acids of the same nature, abounding in
 the Blood, may provoke Thirst. I proved just
 now, that Oil of Vitriol had an ugly Faculty of
 coagulating the Blood, or separating its Serum.
 That there is a separation of the Serum in Drop-
 sies, is evident : If any man should deny it, let
 him look upon the Abdomen and extreme parts,
 and his Eys are enough to convince him. Well
 then, the Serum being thus separated (pray ob-
 serve) and the Mass of Blood not enough diluted,
 the oral Glands must necessarily be defrauded of
 their due Moisture, and consequently Thirst ex-
 cited. But still you harp upon the same string :
 Those Medicins which restore the Consistence of
 the Blood, cannot well be supposed to impair it.
 Now Acids restore it ; and Steel in particular.
 Answ. That Steel is of excellent use, and a very
 great Restorative, is not to be denied. But un-
 der favor, tho you discourse very ingeniously of
 the

the Nature of Steel; yet all you have said will not amount to a proof of its being an Acid: I am still inclined to think it is an Alkaly. For tho it dos not discover it self to be such by its Color, yet it plainly dos by its Effects, viz. its Fermentation with Acids. If, notwithstanding this Phænomenon, you will needs have it to be an Acid, why then one Acid will ferment with another; and so one Alkaly with another: wherfore, tho we should subscribe to the Hypothesis, That Alkalies are the Original of all Distempers, yet 'tis hard to exclude the use of them in general in Distempers. For some Alkalies or other might be found out that should dispute it with these offending Alkalies. You are pleased to quote Becker for a confirmation of the Acidity of Steel. The chief Sentence of the Citation seems to be this. Hoc tantum hic loci allegabo, omne Acidum substantiæ martialis esse, in quocunq; oleo, pinguedine, fuligine, limo, silice & arenâ, immo etiam ipsâ flammâ reperibile, & ad oculum demonstrari posse; quæcunq; ergo naturæ Acidæ & martialis sunt, illa potestatem habent Alkali tanquam substantiam metallorum mercurialem alterandi & transmutandi. If I apprehend the Sense of the Author, this dos not make so much for you. But suppose it did, Becker was never reckon'd infallible. And tho Chalybs were an Acid, it dos not follow, because one Acid will renew the State of the Blood, that others will do so too. But since we have so happily fallen on this Subject, viz. the strengthening

the Mass of Blood, let us see what other Medicines besides Chalybs are subservient to this end. And here I suppose your bitter Herbs may not be *infirmi subsellii*. 'Tis needless to prove it; for hardly any Physician but what has experienced it. I do not believe you will dare to say, there is any thing of an Acid in these, since you know very well that Alkaly may be extracted from most, if not all of them. So that poor Alkaly is effectual in some Cases you see. But then, you say, Oak-Bark, Bistort, Tormentil, Comfrey-roots, and others of that Tribe will reduce the Blood to Consistence. *Ans.* That they are astringent I grant; whether they will reduce the Blood, or invigorate its depauperated Principles, I much question. 'Tis very rare to see them prescribed in Dropsies, Cachexies, and the like Distempers where the Blood is poor and low. They are proper indeed in Fluxes by virtue of their astringent Faculty; but then they owe this Astringency to Acids: Whether they do or no, it matters not much. But why may not this Quality be derived as well from the Terrestrious as the Salt Particles of these Vegetables; since *Bol. Arm.* *Terra Lemnia*, and other plain Earths are very stiptic? I do not say these Earths are so simple as to have no manner of Salt in them, but surely they have very little Acid.

Remark. I am very glad you own Alkalies to abound in *Pleurisies* and *Rheumatisms*, and other inflammatory Distempers. Upon my word, if this be granted, I have gain'd a
great

great point ; for to have put the World into a true way of curing but one single Distemper, is what deserves no small Honor. And for the business of *Dropsies*, I assure you I have no reason to recede from what I have said upon that Subject ; but if you or any one else would favor the World with as certain a Method of curing a confirmed *Ascites* or Belly-Dropsy, as I have done of curing *Rheumatisms*, *Gouts*, &c. I my self would spare no pains to spread that Man's Fame, let him be who he would : But this I am afraid I shall never live to see perform'd, because the Tone of the Parts principally affected, is so destroyed and spoiled, that it would be next to a Miracle to recover them. [In the preceding Tract I have given a short account of some late improvements I have made, relating to the Cure of this *Herculean* Distemper.] And tho you are pleas'd to charge me with arguing unfairly, for attributing the Cause of Dropsies in a great measure, to a destruction of the Tone of the Parts, because I had not before in my Etymologies of Distempers, taken sufficient notice of that matter ; yet suppose I had bin deficient in that point, I hope it is no crime to bring it in late, rather than not at all. But I assure you, I have frequently taken notice of that matter, and lay as great a stress upon it as on any one thing whatsoever ; and do still insist upon it, that the great Thinness of the Blood in Dropsies dos very much procede from the great quantities

quantities of Liquids taken into the Body, and the small quantity discharg'd, by reason the Parts of it have lost their Tone, and therefore the Secretions are not rightly to be perform'd; a man that drinks two Quarts in twenty four hours, not being able to piss, perhaps, above four Ounces, Perspiration also being greatly hindred upon the same account. Now for want of a due secretion by the excretory Vessels, the Blood is clog'd with too great a quantity of Serum; which being admitted into the Lymphatic Vessels, and impregnated with Alkaline Particles, cannot freely pass along these Vessels because of its Gelatinous quality, by which means they are distended to a vast Magnitude, and sometimes broke; and from the broken Lympheducts it is, that so great a quantity of Liquor is thrown into the Cavity of the Abdomen, which distends it to such a bigness. But for all this great quantity thrown into the Abdomen, the Blood is still loaded with three parts in four more of Serum than it ought to be, and therefore the Oral Glands cannot want sufficient Moisture. But here lies the thing, the Matter that in a state of health is separated by the Oral Glands, is impregnated with a Noble Volatile Acid, as does manifestly appear. But in this case the said Acid is almost, if not totally destroyed, and the said Lympha impregnated with Alkali, which is the occasion of the great Thirst that attends Hydropical People. But since I have
at-

attributed an Acidity to the *Lympha* in a state of Health, and yet assert there is no such thing as a pure Acid to be obtain'd from the Blood, either in a morbid State or in a State of Health, that being envelop'd in the Oily Particles, I shall presume, to avoid further Objections, to make a little excursion concerning the general use of the *Glands*.

I will at present divide the Glands into two kinds or sorts, the first of which separat the Excrementitious Particles from the Blood, and throw them quite off by some proper Excretories, such are the *Excretory Glands* of the Skin, the *Glandula Renales*, the Glands of the Liver, &c. all which do separat an Alkali from the Blood, to be thrown off as Excrement; and if by any accident these Glands are made incapable of performing their office, so that the Blood cannot be rid of its Excrements, a Distemper of some kind or other must necessarily follow. The second kind do receive a Noble Substance into them to be again mix'd with the Blood, or for other uses, of universal advantage to the whole Body. The Glands of the Mouth do separat the thin Juice impregnated with a Volatil Acid, which Juice was never design'd by Nature to be thrown away, as some *Tobacco-takers* lavishly do, but to impregnat our Food as 'tis chew'd in the Mouth, and afterwards to dissolve it in the Stomach, and turn it into a Substance fit for the nutrition of our Bodies. The other
Recep-

Receptory Glands, for so I presume to call all those which do not separat Excrements from the Blood, do, by the extraordinary providence of Nature, receive into them that fine Substance which is superfluous in the nourishing of the Parts; and by means of the Lympheducts, in a gentle and easy course, do convey it to the *Ductus Thoracicus*, where it is mix'd with the Chyle, just before it is admitted into the Blood; and that this *Lympha* is a mild Acid has already bin own'd by many. So that here you see, if there be any *Acid* in the Body superfluous, Nature is very provident in the preservation of it, and equally careful in throwing off the superfluous *Alkaly* by a multitude of Emunctories, or Excretory Glands.

From what has bin said concerning the use of the Glands, a great many *Phænomena* concerning Dropsies, and other Distempers, may with ease be solved. In Dropsies, for instance, as before observed, the Excretory Glands not being able to perform their Office, the excrementitious Alkaly, together with its watry Vehicle, is detained in the Body; by which means, tho the Body may increase in bulk, yet none of the Parts receive their due Nourishment; and the Tone of the whole being relax'd and spoil'd, the Receptory Glands forget their duty also, and instead of receiving into them a pure acidulated Serum only, are forced to let pass some Alkalized Excrementitious Serum, which makes the whole a
kind

kind of Gelatinous Consistence; which not being able to pass along the Tracts of the Lympheducts, do so distend them, as to cause swellings in the Belly, and œdematous Tumors in the Legs, &c. And Belly-Dropsies having for the most part a Jaundice as their forerunner, nay frequently going along with them thro the whole course of the Distemper, is no small Argument to prove the Truth of what I have before observ'd, viz. that some of the Excretory Glands have bin defective in their duty, by which means all the Body is impregnated with this yellow Die, and the whole Oeconomy put out of order: And that the Yellowness of the Body procedes from a redundancy of Bile, no body denies; and that Bile is an Alkaly you don't disown. But now come we to the curative part of this horrid Distemper; which tho rarely to be perform'd in a confirm'd State, yet in the beginning, nay after it has made some progress, is frequently to be done, and that as effectually by *Chalibeats* and *Bitters* as by any sort of Medicins. But here for want of making Experiments (by which means only we are capable of arriving to any sort of Certainty in the knowlege of things) you say that *Steel* and the *bitter Herbs* are Alkalies: and the reasons you give for it are, because *Steel* being mix'd with *Acids*, will cause an Effervescence; and the *bitter Herbs*, after burning, do afford a fixt Alkaly. Solid Reasons indeed! For all
Sul-

Sulphurs being mixt with Acids will cause an Effervescence, nay some of them take fire; and that all Metals are full of Sulphur is past dispute; and from the Ashes of all Plants, even *Sorrel* it self, may be extracted a fixt Alkaly; therefore by this way of arguing, *Sulphur* must be an Alkaly, and so must *Sorrel* also. But the manner of the Production of volatil and fixt Atkalies having bin spoken to before, I shall say no more to that Matter, but touch a little upon what I take to be the General Principles of mixt Bodies, not that all these Principles are to be separated from all Bodies, some containing all, some two, three or four of them; and according to the different mixture of them, different Substances are produced. *Acid* and *Sulphur* I take to be the vital active Principles in Bodies, *Alkaly* the Principle of Death and Corruption, *Water* and *Earth* the two passive Principles. From these five Principles I think I can more easily account for the various *Phenomena* in Natural Bodies, than from the old five of *Salt*, *Sulphur* and *Mercury*, *Water* and *Earth*, or from any other Principles yet broach'd in the World. I have only mentioned this matter, to let you know the Principles I go upon, but shall leave the further prosecution of it to another opportunity. Now to return to the business of *Steel* and *Bitters*; as for *Steel*, I have said so much already concerning that in several places, that I shall not here trouble my self nor you any more about

bout it. But if we can cure Distempers with it, it is no matter tho one takes it for an Alkaly, and another for an Acid; nay I can assure you, if you will but black your Fingers a little with Charcoal, you will find it to be a sulphureous Acid. As for *Bitters*, I will be bound to lay a good Wager with you, that if you put a pound of *Centaury* or *Wormwood* dried into a Retort, and distil it with an easy Fire till all be come off that will, and afterwards calcine the *Caput Mortuum*, and extract the fixt Alkaly from the Ashes, if you don't find a treble or much greater proportion of Acid to that of Alkaly produced from these most bitter Plants, I will be a loser. But further, if Bitterness did procede from a predominancy of Alkaly in any Body, why then a man would suppose the more this Body were impregnated with Alkaly, the bitterer it would be: but upon my word I have frequently experienced the contrary. For when I was a Champion for *Alkalious* Medicins (as I am not ashamed to own I once was) I have extracted a Tincture from *Myrrh*, *Aloes* and *Saffron*, with well rectified Spirit of *Sal Armoniac*, hoping to do great Feats with it. Now after I had digested them together for ten or twelve days in a gentle Sand-Heat, instead of having the Tincture bitterer than the *Myrrh* and *Aloes* themselves, I always found it almost, if not altogether without any bitterness at all; nay, after a longer digestion it has bin almost perfectly

fectly sweet. However, I lay no great stress upon Taste, the differences in them being one of the specific differences the Great Creator has planted in things, of which we have as yet but very little knowledge; tho, I confess, I greatly lament our Ignorance in this matter. A few degrees of predominancy of any of the Principles, cause very great alterations in Bodies, both as to *Color*, *Smell*, and *Taste*; and for ought I know, a knowledge of these minute Circumstances is what we have no possibility of arriving to in this World. But one word more concerning *Bitters*, because you will account them *Alkalies*, and lay so great a stress upon them. *Vitriol of Silver* is the most exalted Bitter I know, and a celebrated Medicin in the Cure of Dropsies, but yet is no Alkali; and after you have considered it, I believe you won't term it so. What you say to *Acids* fusing the Blood, is directly contrary to what our Predecessors have asserted, who attributed its coagulation to Acids, and to what you your self say a little after. But what I attribute to *Acids* in general is this, that they keep the Blood in its due state, *viz.* the Fibrous and Globulous Parts in their due Texture, and the *Serum* fluid, by which means the whole Mass is capable of performing its proper Offices without being liable to Stagnations; and also by confirming and strengthening the Tone of the Parts, they greatly contribute to the aforesaid end, *viz.* preventing Stagnations,

tions, and promoting the Secretions. As for what you say concerning the giving of Oil of *Vitriol* alone, I readily assent to it, that it will make mad work; but I hope you cannot charge me with any such mad Practice. When People are cold, they naturally run to the Fire for warmth, yet none but mad Persons will put their hands into it; and tho Culinary Fire, if People are so imprudent as to throw themselves into it, will consume and destroy them, yet a prudent use of it is a very great comfort to Human Life: and were it not for Fire, the *Russians* and other *Northern* People would have a very sad time on't during their long Winters. So it is in relation to Oil of *Vitriol*, which tho given alone will cause Death and Destruction, yet being diluted in proper Vehicles, and given in very large quantities, will in many cases produce as noble Effects as any one Medicine now known. It is the business of a Physician to consider the Nature and Constitution of his Patients in all respects, and to proportion the Doses of Medicines as their Stomachs and Natures will bear. I hope there was never any so wild, because Oil of *Vitriol* is recommended in Fevers, as to give it alone without a Vehicle. But what you charge upon Oil of *Vitriol*, may be retorted upon most other Medicines of an active nature: Because an ounce of *Calamelanos* given at once to a Man will scarce fail of killing him, I suppose that does not deter you from giving a few grains of it to a
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young Child. An ounce of *Rozin of Jallap* will kill a Plowman, and yet a few grains may with safety be given to a very tender Constitution. I could retort a great many things of this kind upon you, were it not altogether needless: for that Physician that gives a Medicine without first considering it in all its circumstances, deserves to be banished the society of Mankind; and he that knows most, is generally most cautious: and tho I am so clamor'd at by my Brethren, yet I can boldly say, the greatest slips I ever made, have bin from my over-cautiousness; and I will rather chuse to commit three faults from that, than occasion the loss of one man's Life from rashness and inconsiderateness. What you have objected against Oil of *Vitriol* taken alone, has long since bin objected by other People, and the Objections fairly answered. I shall presume to transcribe what I have met with in an *Apologetic Dialogue* between *Phileraustus* and *Chemista*, upon the same Subject, *Theatrum Chymicum*, pag. 86, 87. Vol. I.

Ph. *Absit tamen Vitriolum, Chalcithin, atq; alia id genus leprosa, impura, atq; corrodentia mineralia in humanum corpus ingeri, & ad perpetuam tui nominis ipsiusq; artis infamiam usurpari.*

Ch. *Quid ita, hospes mi?*

Ph. *Nam cum oleum Vitrioli etiam à Gesnero toties laudatum, scutellam stanneam exedit; quis simile periculum in stomacho nostro membraneo non meritis verebitur?*

Ch.

Ch. *Aspera tu quidem telâ elidis, sed quæ facile retundi queant à Philosopho excitato. Nam si oleum Vitrioli propter stannum ex eo exesum humano corpore exulceret; quid vino sublimato, Aceti Mellisque spiritu, quid tale, & Limonum Citrorumque succo fiet? Nam eorum unumquodq; stannum absorbere, vel semestris medicus agnoscit.*

Ph. *At non tam parvo temporis curricula atq; spiritus ille vitriolatus.*

Ch. *Imo sanè minor. si cum nostro illius exhibendi modo conferatur ratio; nollem enim te aliquem Chemicum tam stupido ingenio præditum existimare, ut oleum Vitrioli nullis aliis mixtum liquoribus propinare ausus sit, sed potius ea aquæ rosaceæ vel alterius liquoris libram olei vitriolati guttas totidem adjicere, quæ ad aciditatem comparandam satis esse queant: cui liquori oleo Vitrioli accrescenti, si tantum stanni immerferis quantum aceto, nullum non invoco supplicium, nisi stannum multo magis corrosivum reperiat, Verum si hoc oleum Vitrioli vel etiam Sulphuris in usu esse non mereatur propter erosionem. quo se conferent Cantharides, à Galeno inter ea medicamenta relatæ, quæ ne gustare quidem audeas propter summam putrefactionem atque erosionem? tamen veterum ferè omnium atq; multorum Neoticorum praxes eas ad urinam provocandam, penisq; ætoliæ & suscitandam Venerem usurpant atque commendant.*

Ph. *Nequeo diffiteri; sed tamen parva quantitate eas prescribunt, & non nisi aliis conveni-*

entibus rebus admixtas; quo quidem modo exhibitæ, non solum innoxia perhibentur, sed etiam per salutares.

Ch. *Vera prædicas, atq; ego itidem respondeo; Olea prædicta debita quantitate, mixtura, præparatione exhibitæ, tantum non corrodere corpus humanum, sed ejus spiritus reficere, febres extinguere, obstructions aperire, putredinem arcere, venena exigere, sitim sedare, ulcera percurare, omnesq; illas vires cum laude sua plurimæ exercere, quas illi Gesnerus epistola ad Cosmam medicum, aut Paracelsus in libro de Vitriolo ascripserunt.*

I could produce a great deal more of this kind from many of the antient Chymists, who were honest men, and to the best of their knowlege endeavor'd to reform *Physic*, and put Practitioners upon a right bottom: But they were defective in so many things, that their undertakings wanted success, tho from some of their Writings honest and inquisitive men may receive great advantage. Now tho I will not trouble you with any thing more from the Antient Chymists, yet I shall make bold to transcribe a Letter I lately received out of *Torksbire*, there being somewhat in it relating to the point in hand.

Vir

Tertio Non. Martii.

Vir Dignissime,

TRactatus tuos summis cum deliciis & voluptate perlegi, & tuum in promovendo illo Nobilissimo Medicinæ studio institutum maxime demiror in humani generis bonum universale. Maçte, Bone Vir, melioribus avibus, & Momos aspernare. Te certum facio me Acidis usum esse 10. annis elapsis summo cum successu; & Alkalia tantum ut absorbentia Acidi aestimo. Assiduâ experientiâ videtur quantum valet appetitus & digestio: & quid magis dubium hoc in casu quam Alkalia, & quid melius Acidis? Acidum est solum fermentum Ventriculi. Quid Coward audeat dicere, nemo advertet. Omnibus in seculis præteritis quot morbos edomuit Acidum, non necessarium est enumerare. Virum quendam habui putridâ Febre laborantem, quem tantum Sp. Vitrioli in aquâ frigidâ (Deo favente) restitui. In Hemoptoe, Hydrope, fluxu muliebri, & fere omnibus in ventriculi morbis; Scorbuto infinitos fere curavi Acidis commixtis, & in vebiculis appropriatis exhibitis. Equitem vicinum meum Calculo cum Paralysi & Hemorrhodali fluxu decumbentem quodam Acido ad priorem valetudinem reduxi, & ab Orco detraxi: immo quamvis in Hypochondriaca affectione Acidum culpamus, tamen quid emolumenti in isto Proteo accidit à quodam Acido non est nunc enarrandi locus. Hic Acidus meus liquor omnes obstructions reserat & statim,

N n 2

Gas

Gas illud sylvestre compescit, & omnes istos motus irregulares componit instar fulminis. Si quicquid in Praxi vel Lectione meâ occurrit, summâ cum sedulitate ad te, mi bone Vir, mittetur.

Nam tui favoris sum studiosissimus,

Jo. Watſon.

Postscript. Be pleased to direct a Letter to me to be left with Mr. Ulster Apothecary in *Burnſly* in *Torkſhire*, by *Doncaſter Bag*. I beg a Literal Correspondence, and ſhall communicate to you ſome *Acid Arcana*, for that name they deſerve.

I hope what I have ſaid is ſufficient to remove that Mighty Objection about the hazard of giving Oil of Vitriol alone: But I might have ſpared my ſelf this trouble, for I am almoſt poſitive, that there is not a Phyſician in *Chriſtendom* of any buſineſs, tho never ſo great an aſſertor of the uſefulneſs of Alkalies, who has not ſome time or other made uſe of even Oil of *Vitriol*, that dangerous Acid: but how they can anſwer for it I cannot tell; for if Acids are the cauſe of Diſeaſes, how they dare with a good Conſcience give even the moſt temperat Acids to their Patients, I know not; and I am ſure themſelves can give no reaſon for it: but I believe it is from a conviction that nothing is to be done without them. Again,
if

if Acids were so pernicious to Mankind, as some would make us believe, I wonder the College of Physicians don't unanimously petition the Parliament to prohibit the Importation of *Oranges* and *Lemons* in such vast quantities as we now have 'em.

You greatly harp upon that string, that Acids held in the Mouth won't quench the violent Thirst of Hydropical People. To which I answer, that it is impossible when the whole Mass of Blood and *Lympha* are contaminated with Alkalious Particles, that the washing the Mouth only with Acids should take away the Thirst, when the parts are continually washed with the contaminated Juices, and consequently the particles of the Acid must be soon obtunded. But however, nothing is more grateful or delightful to an Hydropical Person, than a slice of Lemon or some such thing. Common Salt I allow will excite Thirst, but not *quatenus* Acid, for Spirit of Salt will take it off as soon as any thing. But, Sir, I assure you I have stumbled more at Common Salt's exciting Thirst, than at any thing else besides, and therefore have spared no cost in making Experiments to find out the reason of it; at last, after much labor and sweat, I found there was no Common Salt but what had more or less of a cursed thing call'd *Bittern* mixt with it, of which you may be perfectly inform'd at any Salt Works. Now this *Bittern* is the most corroding fixt Alkaly in Nature;

and tho it be inconsiderable in quantity in respect of the Acid the Salt contains, yet it will fix it self upon the parts after the Acid of the Salt is all dissolv'd, and so excite Thirst. Of this *Bistern* you may expect more in another place ; for had I not a design to satisfy you, I would have taken no notice of it here ; because the allaying of violent Thirsts I only attribute to manifest Acids, and common Salt not being one of that sort, it matters not whether it will allay Thirst or not. I love not repetition, but for once I shall be guilty of it. You may remember in another place I tell you, that those things which by Distillation afford a greater quantity of Acid than of Alkalious Substances, are to be reputed Acids, & *vice versa* : now common Salt affords nineteen parts in twenty more of Acid than of Alkaly, and therefore is an Acid ; but before Distillation the Acid is so envelop'd, tho it contains so much of it, that it is not discernable to the Taste. I believe no one that has blackt his Fingers, will deny *Guaiacum* to be an Acid, but at the same time I believe it was never prescribed to allay Thirst. Things, tho of the same Tribe, are differently to be administred, according as they are differently speciflicated by Nature. It is not a certainty of the knowledge whether *Acids* or *Alkalies* are the Causes of Diseases, that will presently make a man a Physician, tho it will go a great way towards it, but a thorow knowledge of the different specifications

cifications of Nature must also concur.

You charge me with contradicting my self, after which you should have bin sure to have avoided any such thing your self; but however in one place you say, that Oil of Vitriol dissolves the Blood, and in another that it coagulates it: now I shall take no advantage of this slip, but conclude my Remarks upon this Paragraph, having already spun them out to too great a length.

The next Paragraph is too long to transcribe, and there being little material in it, I shall only make some general Remarks upon what I find worth taking notice of.

You first of all charge me with saying, that neither too much nor too little Acid must be given, which is the sum of a Page or two, viz. 19, and 20. In answer to which, I do assure you, that no *Virtuoso* need be ashamed to imploy his time in considering the due proportions of things requisit to accomplish the business he undertakes. Now in Physic he that does not understand the true Rules of Proportion, deserves not the Name of a Physician. He that will prescribe an Ounce of *Fallap* instead of a Dram, deserves to be hang'd; and who but a mad man will give a Pound of Oil of Vitriol, when forty Drops in a pint of Water is all that is desired? But, Sir, prudent Physicians have a wonderful Director in relation to manifest Acids, and indeed to every thing else, viz. the Stomach, which is a nice
judg

judg of things ; that which is agreeable to it being receiv'd and retain'd with pleasure, but that which is disagreeable rejected and abhor'd. However, it must not be overloaded with those things in which it takes the greatest delight. Now Manifest Acids it more covets and delights in than in any thing besides ; but when it has enough to supply its wants, it gives sufficient item of it : and if the Stomach be rightly consulted, it is impossible the Blood should be overcharg'd with them ; but if at any time People are not sufficiently cautious of that matter, but load the Stomach with more manifest Acids than the Body has occasion for, it won't fail of rejecting them by Vomit. This Matter may at any time be safely experiment-ed by an over-large draught of Vinegar, in any Case where the Body has no need of it, or at least in so great a quantity at a time ; for which reason I tell you that the Blood cannot superabound with Acids, as it's plain in fact it does not, neither in a Morbid nor Healthy State, because, the Stomach will not receive or retain more than it has occasion for : but tho it cannot overdo, yet it is very frequently defective in conveying a sufficient quantity into it, either thro its own fault, or the fault of the Physician who forbids the use of them, and so the whole Body suffers damage. How greedily will the poor Stomach imbrace the Juice of an *Orange*, or the like, in a Fever ? and how scornfully will it reject and abhor any thing of

a contrary nature? Nay, the usefulness of Acids is so evident and extensive, that it is almost a shame they should now want a Champion, after there has, for many years together, bin so great a noise made about *Experimental Philosophy*, and even public Societies, in many Nations, erected on purpose to cultivate it.

But to return : I am apt to believe, if you take the following advice, you will scarce be guilty of an Error in the giving of manifest Acids, *viz.* always give them in such quantities as the Stomach will receive them with pleasure and delight, and never refuse them when the Stomach earnestly craves them ; this is the method I observe at present, and believe I shall never recede from. I confess it may be lawful somtimes in very extraordinary cases to strain a point beyond what Nature craves ; but herein if the thing should chance to be overdone, all the damage that can insue is occasioning a puke or two. This you may take from my constant experience, and believe me I would not willingly impose upon you and the World. But in general, it is always necessary for us Physicians, who are, or at least should be, only Nature's Servants, strictly to observe her Necessities, and not to outrun her Dictats.

Without making the least Experiment to convince me of being in an error, you go on to range *Sassafras* among the number of Alkalies :

lies : but when, from Experience, I assure you that *Sassafras* is an envelop'd Acid, I think you ought not to trouble me and the World with conjectures; and were it not that I value and respect you, I would not take the least notice of them. As for the remaining part of this Paragraph, I think I need take no notice of it, having sufficiently answered every thing that looks like an Objection in it in my former Remarks; and therefore shall, in your own words, conclude, that if I have any where express'd my self indecently, I hope you won't attribute it to rudeness or disrespect: for I assure you, I think you a Blessing to the Country where you live, and doubt not but I shall see you an Honor to our Profession.

I should have concluded, but that you also begin again; and that I may not be unmannerly, I shall for once keep you company to the end of your Journey, but design no more to trouble the World with Disputes; and if any thing more of that nature offers it self, worth taking notice of, it shall be included in some Practical Discourse. And so we pass on to your Reflections upon the First Part of my *Essay of Alkaly and Acid*: And first,

Of

Of the SMALL POX.

WHAT I think worth taking notice of at present in your Reflections upon this matter is, That you honestly allow the giving of *Acids* in a *Flux Pox*, the only dangerous one, and from which our Patients are in most hazard: but in *Benign* Poxes you commend me for doing nothing, and indeed I shall always do so where my Patients have no occasion for Medicines. I am a Friend to *Rad. Serpentaria Virg.* as well as you, in all those Cases where there is an occasion for *Cardiaks*; that and *Saffron* being as Noble Cordials as perhaps are known; yet they must never be given but with due caution and circumspection. But I am a professed and declared Enemy to *Pul. à Chelis*, and all things of that kind. And once again I assure you, that *Rad. Serpentar.* upon distillation will appear to be a sulphureous Acid; and in Cases where the Pox does not come out kindly, and the Pulse is low, an Infusion of that Root in Vinegar, or some such thing, will do very good feats. I confess the Testaceous Pouders in *Benign Poxes*, are frequently given without any evil consequence; but the reason is, that the Patients are generally in so good a condition, and have so much strength of Nature to support them, that it is almost impossible to kill them: but what fatal work they

they make in *Flux Poxes*, or any other of a malignant kind, is too frequently seen. Here observe the difference between your Method and mine, even by your own confession. Mine is principally serviceable in dangerous Cases, Yours where there is no danger. Granting this, you may still keep your Method to your self, and I will stick to that which will avail in hazardous Cases, and only look on in those where my Patient needs no help. You at last blame me for giving *Syrupus à Meconio* in the beginning of the Small Pox; but are too hasty in censuring me on that score, for of all men I am least to be blam'd for tampering with Opiats. If you remember, the occasion of my prescribing *Diacodium* in the beginning of the Small Pox was this, *viz.* If the Patient's Stomach be overcharg'd or clog'd with viscous Matter, I prescribe an easy Vomit; and after its operation is over, to allay the hurry and disorder occasion'd by it, I prescribe a little *Diacodium*, but never prosecute it afterwards, as some people fatally do. I have not time, else I would remark upon you Line by Line; but having taken notice of what is material, I shall let fall the rest, and leave you and your Friends to make the best of it; yet cannot forbear to assure you, that two or three of my greatest Enemies in this Town, have of late prescribed Acids plentifully to their Patients in the Small Pox, and at the same time have rail'd at me for so doing: whether this be like Gentlemen, I leave the World to judg.

Of

Of the SCURVY.

IN this matter you perfectly agree with me in my Practice, only you would bring in the *Bitter Herbs* as great assistants in the cure of this Distemper, and these Herbs you will have to be Alkalies. As for *Bitters* I greatly approve of 'em in their proper places. But having before put you in a way to be satisfied that they are not Alkalies but Acids, I shall not here trouble you any more about it. Nay, if we can but once agree in the main Point of curing Diseases by any particular sort of Medicin, tho you account it an Alkaly and I an Acid, we ought not to fall out, but give God thanks we are able to perform the Work we pretend to: Yet at the same time I think a Physician ought as much as may be, to know the true reason why a Medicin performs such and such Operations. And I must confess I shall be very unwilling, upon any occasion, to prescribe a Medicin, for the manner of whose operation I am not able to account. As for what you say concerning the Scurvy that attends the People in the North part of *Devonshire*, I think I have sufficiently accounted for it already; and I doubt not but impartial Readers, who will give themselves the trouble of perusing my several Tracts, will acknowledge it.

Of

OF RHEUMATISMS.

WELL met my good Friend! I must confess you have almost com to an agreement with me in several things before, yet here you say your Practice and mine are the same, but don't mention how long you have used this Method in the cure of this Distemper. However, I can't presume you had it from me, but that it was your own Judgment that led you to it. I hope, for the good of the Country where you live, that in a little time we shall agree in more things than the cure of *Rheumatisms*: yet I would have you remember, that in another place you blame Acids as the cause of Pain, and here you professedly use them in the cure of a Distemper, the principal Symptom that attends which is exquisit Pain.

OF CONSUMPTIONS.

A *Consumption* is a Distemper, the progress of which in this our Island I have oftentimes heartily bewail'd. It is likewise that of which most of my Predecessors (as before observed) have died, even in the prime of their Age; and is also what I have more cause to be afraid of than of any thing besides: upon which score I have spent a great many days and nights
in

in considering the Nature and Cause of this Fatal Distemper, which deprived me of the best of Fathers while but a Child, and also of some other of my dearest Friends. Now the reason I have not hitherto spoken so much about it as of other Distempers, is, because I have bin some years in collecting Observations in order to write a particular Tract of *Consumptions*, and was unwilling to anticipate what I had to say upon so weighty a Subject tho I was able to say as much concerning that as any Disease of which I have treated. Nay, I am apt to believe, I may without vanity say, that I have cur'd more true Consumptions in the space of one Year last past, than any Physician in *England* has done, and that by the means of Acids either Manifest or Invelop'd; an ample account of which, as soon as my business will permit, I design to make public. But however I shall spend a little time in remarking upon what you have said. You allow Acids to be proper and beneficial in those Consumptions not attended with a *Catarrh*, which is a concession very few Physicians besides will give their assent to; or at least if they will, they are but lately come over. But the main thing you harp upon being, that manifest Acids are not proper to be used in *Catarrhs*, I shall a little consider that matter: For tho a *Catarrh* will cause a Consumption or wasting of the Parts of the Body, yet it is not what we in *England* commonly

call a *Consumption*; the Distemper called *Tabes Anglicana*, or the *English Consumption*, proceeding from an ulceration of the Lungs: and in these cases for the most part we have no Catarrh, tho sometimes it dos attend them; but one of the principal Symptoms of this Distemper is the discharge of a great quantity of tough, yellow and greenish *Pus*, in which cases you allow Acids to be proper: nay tho there be a Catarrh attending them, yet it is not from that that we make our fatal Prognostics, but from the good or evil nature and quantities of the aforesaid *Pus*, with some other Symptoms not necessary here to enumerat. Nay it is not uncommon for our Consumptive People to bring up from their Lungs by coughing, as perfect Chalk Stones as ever were found in the joints of Persons severely handled with the Gout; which Chalk I am sure was never the product of an Acid. But however, not to insist any longer now upon this matter, it not being the proper place for it, I shall return to the business of Catarrhs. I have before taken notice, as you your self here own, that the *Saliva* is a noble Acid, and convey'd to the Mouth for a most noble purpose, *viz.* to be mix'd with the Food in chewing, and afterwards in the Stomach, to turn it into a substance fit for the nutrition of our Bodies. Now if on any occasion the Glands of the *Pharynx*, and other Glands about the Mouth are over-relax'd that they can't retain the *Lympha* in their proper

proper receptacles, but let it fall continually from them, being what we call a Catarrh or Defluxion, this must inevitably cause a tickling Cough, not because it is an Acid; for even a defluxion of the most simple Water would produce the same effect; but the Body being continually robb'd of this most noble Juice, cannot fail of being wasted and decay'd by it. And that the cause of a simple Catarrh proceeds from a relaxation of the texture of the Glands only, and not from the Lympha (contain'd in, and continually brought to them) being overacid, the following easy Cure is sufficient to demonstrat, *viz.* Let some *Mastic* and *Olybanum* be made into impalpable powder, and with a long Quill, or a hollow Instrument made on purpose, let it be blown upon the *Larinx* at night going to Bed; the continuance of which for some Nights together will frequently do wonders in the cure of Catarrhs. I confess this was none of my own contrivance, but communicated to me by my worthy Friend Dr. Jones, who is a man of the happiest invention I ever met with. Now the only design in the using of this Powder is, that being immediatly convey'd to the Parts affected, it should cause them to contract themselves, or regain their Tone, and of consequence the Catarrh will cease. [But because the use of this Powder is somewhat troublesom, I have of late contrived the following Lozenges to be substituted in its room, from which I have

observed very remarkable effects in all sorts of Catarrhs.

℞ *Terra Japon. Gum. Tragacanthi Pul. ana dracm. duas; Olei Cinnamomi gut. quatuor; Sacchari Rosati unc. unam semis; Syrupi Balsamici q. s. f. Massa, ex quâ formantur Trochisci, quorum detineatur unus in ore frequenter.*]

This is not all I have to say concerning Catarrhs, but I think as much as is necessary at this time. You tell a famous Story of a Person that had a Catarrh upon him by the over plentiful use of *Sevil* Oranges; but are so deficient in relating several circumstances necessary to be known upon such an occasion, that if I have not already said enough to solve this difficulty, I shall leave you to make your best advantage of it, being so tir'd that I can go no further. And I do assure you it shall be the last controversial Discourse I will write; for if ever I meet with any Objections against my Hypothesis worth taking notice of, I shall clear my self from them as well as I can, in those Practical Discourses that I design (God willing) hereafter to publish. I confess I am over head and ears in debt to the Public, having promised several things which many have expected to come abroad long before this time, and indeed I design'd they should; but several unexpected Accidents have interven'd

ven'd, which have put me by, and hindred me in my undertakings, yet in due time I will indeavor to fulfil what I have promised. I shall conclude with assuring you, that I am now so absolutely confirm'd in the truth of my Hypothesis, that I am sure it is not in the power of any man to overthrow it; tho at the same time I must own I may have bin deficient in some circumstances relating to the explication of it: but Time and further Observation, I hope, will clear all those things. Thus wishing you to weigh all things in the Balance of Reason and Experience, before you pass a Censure, is all at present from

Your real Well-wisher,

*Villers-street Turk Buildings,
May 12. 1698.*

Jo. Colbatch.

POSTSCRIPT.

DR. *Coward* took occasion to make some wonderful Reflections upon me and my Hypothesis, in order to recommend a Medicin of his own invention to the World. This Medicin which he calls *Tinctura Sanitatis*, is as Noble in its Nature, as the Author is Generous and Great in his Temper. I can assure the World it is nothing else but the most ridiculous kind of *Sal volatile Oleosum* that ever I saw; and were it not that I am unwilling to expose a Member of the College, I would print the Receit, which was communicated to me by one that has bin imploy'd by him to prepare it. The Doctor cannot but own I am more generous than he has bin, in that I have not publish'd the Story relating to Mr. *Bat* and Mr. *Lord* also. But such poor Enemies as him and *Lee*, are rather to be pitied than any thing else. However, *Sal volatile oleosum* being a Medicin in great vogue with almost all other Physicians, I shall presume to make some few reflections upon the main Ingredient in it, which is the *Volatil Spirit* or *Salt* of *Sal Armoniac*. Now every body knows that the *Volatil Spirit*, or *Salt* of *Sal Armoniac* is little else but the *Volatil Spirit* or *Salt* of *Urin*, which at best is no more than an Excrement of

of our Bodies. But however, there is something more that deserves our taking notice, in order to deter us from the use of this Medicin, which is now so much in fashion, to the no small detriment of many. The *Sal Armoniac*, from which the Volatil Spirit or Salt is extracted, is a Composition of *Urin*, *Soot*, and *Sea-Salt*; and by the addition of a fixt *Alkalizat Salt* or *Quicklime* (which is the usual method in making Spirit and Salt of *Sal Armoniac*) the Acid of the *Sea-Salt* is so intrangled that it readily lets go from it the Volatil Spirit or Salt of the *Urin* and *Soot*; but that of the *Soot* is very inconsiderable in quantity to that of the *Urin*. Now the *Urin* made use of for the aforesaid purpose, is generally procur'd from the public Houses, which is a jumble of all together, viz. of People laboring under all kinds of habitual Diseases, as *Pox*, *Gout*, *Scurvy*, *Scrubbado*, &c. And there is scarce a Disease attending Man's Body, but some of the morbidic Particles are imparted to the *Urin*; and if the *Urin* in general partakes of them, the Spirit and Salt must do so in a more eminent degree: so that, I think, a necessary consequence of giving such a Medicin must be sowing the Seeds of Diseases in Mens Bodies. And I believe in my Conscience that one great reason of the late frequency of some Tyrannical Diseases, more than heretofore was wont to be, has proceeded from the exorbitant use of Spirit and Salt of *Sal Armoniac*, and those o-

ther things of which they are prime ingredients. Now I desire that our Ladies, who are subject to Histerical Distempers, would well consider this matter, because they are generally arm'd with it, to fright away that Distemper, of which I am afraid it is in great measure, if not altogether, the cause, or at least of the increase of the saline Particles of the same kind with which their Blood abounds. I shall say no more at this time, but hope this further Hint, to deter people from the use of Volatil Alkalious Spirits and Salts, of which the Spirit and Salt of *Sal Armoniac* are most common, may not be unserviceable.

I have made use of the words *Spirit and Salt of Sal Armoniac*, as of things somewhat different, tho indeed there is no real difference between them; that which is called Spirit being only a proportion of the Salt diluted in a proper quantity of Phlegm: this is well known to Physicians, but it is probable that other Persons into whose hands these Papers may come, may labor under some difficulty about it, without this Intimation.

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A

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